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Agni is the invariable agent in the process of *Paka* (Digestion, Transformation). Ingested food is to be digested, absorbed & assimilated which is unavoidable for the maintenance of life and it is performed by the *Agni.* About the importance of *Agni, Acharya Charaka* has mentioned that after the non functioning of *Agni*, the individual dies, when Agni of an individual is normal then that person would be absolutely healthy & would lead a long happy, healthy life, but if Agni of a person is vitiated, the whole metabolism in his body would be disturbed, resulting in ill health & disease. Hence Agni is said to be the base (*moola*) of life. As we know *Acharya Vagbhata* stated that *"Roga sarveapi mandagnau"* means *Mandagni* (inadequate power of digestion) is responsible to all the pathological disorders. Different examples are available in our classic to indicate *Pitta* is same as Agni, but some doubt is raised behind this concept that Pitta is Agni. Agni is innumerable because of its presence in each & every *paramanu* of the body. But enumeration of number of Agni varies in various classical Ayurvedic text. According to functions & site of action Agni has been divided into 13 types i.e. one *Jatharagni*, five *Bhutagni*, seven *Dhatwagni. Jatharagni* is the most important one which digest the four type of food & transforms it in to Rasa & Mala. The five *Bhutagni* act upon the respective Bhutika portion of food & thereby nourish the *Bhuta* in the body. Each *Dhatwagni* or the bio energy present in each Dhatu synthesize & transforms the essential Rasa Dhatu required for that particular Dhatu or cell from the basic nutrients present in the Anna rasa or essence of our diet which we consume. Each *Dhatwagni* has got a speciality to synthesize & transform the constituents suitable to its particular *Dhatu*. This action is a sort of selective action. In this way, the entire process of transformation consists of two types of products - Prasad (essence) & *Kitta* (excrete). The former is taken in for nourishment while the latter one is thrown out & defiles the body if stays longer. Explaining briefly the digestive & metabolic functions of *Agni Acharya Charak* has mentioned that various type of dietetic materials are digested by their own Agni (Bhutagni) encouraged & enhanced by *Antaragni* (*Jatharagni*) which is further digested & metabolized by *Dhatwagnis* to associate the body with the nutritional strength, complexion & happy life along with providing energy to the seven *Dhatu* (Ch.Su. 28/3).

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Editorial Forum

Concept of *Agni* In *Ayurveda*

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The concept of *Agni* is the most important contribution of *Ayurveda* to healthcare. It's described as an important factor of digestion & metabolism in our body. Agni is the term given in *Ayurveda* for the whole process of energy liberation through digestion at the level of Gastro-intestinal tract and metabolism at the level of tissues. Digestion, metabolism and assimilation i.e. whole process of biological conversion and utilization of energy is symbolize by the term Agni.

In Brahmasutra, Agni has been meant to be a sign of life in the body. The etymology of word 'Agni' was given by Acharya Yasaka, which is as follows - Agni = A + G + Ni. Word 'A' denotes root, 'I' meaning 'to go, 'G' denotes root 'Anja' meaning 'to glitter' or root 'daha' meaning 'to burn' & 'Ni' means 'to carry'. Sankracharya (Vedantasutra) illustrates that Agni carries everything in it. It moves everywhere & metamorphosis substance, burns, assimilates glitters & grows. Agni is a pivot round which remaining factors responsible for the maintenance of health & causation of disease as well as decay revolve.

Importance

As we know Acharya Vagbhata stated that *"roga sarveapi mandagnau"* means Mandagni (inadequate power of digestion) is responsible to all the pathological disorders.

It converts food in the form of energy which is responsible for all the vital functions of our body. A part from that, Agni provides energy which is necessary for the normal functioning & vital activities of the living organism. Therefore, Ayurveda considers that Dehagni is the cause of life, complexion, strength, health, nourishment, lusture, Oja, Teja (energy) & Prana (life energy). (Ch. Ch. 15/3). About the importance of Agni, Acharya Charaka has mentioned that after the non functioning of Agni, the individual dies, when Agni of an individual is normal then that person would be absolutely healthy & would lead a long happy, healthy life, but if Agni of a person is vitiated, the whole metabolism in his body would be disturbed, resulting in ill health & disease. Hence Agni is said to be the base (moola) of life. (Ch.Ch.15/4).

According to modern medicine metabolic processes of division & multiplication are going on in every cell (Dhatu) of our body from birth till death. For these constant processes in all cells, a Biological energy is constantly essential, without which the survival of our body will be quite impossible. The same biological energy is coined by Ayurveda as Agni. This Agni implied in the cells (Dhatu) of our body is of two type potential & kinetics.

Relation between Agni & Pitta-

Origin of Pitta is form 'Tapa' which means - (1) Combustion / Digestion - To give nourishment to the body by digestion of ingested food. (2) To maintain the heat - By means of heat it maintains the colour, lustre etc. of body.

The main question which has being always raised that Pitta & Agni both are different or same? Is era any exist area of Agni without Pitta, or is it Pitta that is Agni? Different Acharya has difference of opinion on this as some Acharya say its Pitta while others say it's different.

Acharya Sushrut, stated that there is no existence of any other Agni in the body without Pitta, because when there is increased digestion & combustion in the body due to Agni Guna of Pitta, the treatment is as same as Agni (Su. Su. 21/09). Acharya Marichi has also emphasized, that the Agni present in the Pitta, gives good or bad results, when it is normal or vitiated. (Ch.Su. 12/4).

Chakrapani has commented on 'Pittantargatta' that the function of Pitta inside the body is not combustion but its work is to provide heat of Agni. Beside this Acharya Shushruta has described 5 types of Agni, as the variety of Pitta. Acharya Bhoja also considered Pitta as a Agni. Digestive fire is included

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with in Agni which is specially meant for different enzymatic activity of the body i.e. Pachan, Dahan, Bhedan etc.

Different examples are available in our classic to indicate Pitta is same as Agni, But some doubts are raised behind this concept that Pitta is Agni. Ex. –

- The Quotation of Acharya Sushruta ''**समदोष समाग्निश्च**'' has clearly indicated that Pitta & Agni are not same.
- Why indulgence of Aggravating factor like Katu, Vidahi etc. reduces the strength of Agni instead of enhancing it.
- Appropriate example to highlight above concept that Ghruta alleviates Pitta but enhance Agni.

Types of Agnis

Agni is innumerable because of its presence in each & every Paramanu of the body. But enumeration of number of Agni varies in various classical Ayurvedic texts as shown below -

- Charaka has mentioned about 13 Agni- Jatharagni (1), Bhutagni (5), Dhatuagni (7).
- According to Acharya Sushruta, five types of Agni- Pachakagni, Ranjakagni, Alochakagni, Sadhakagni, Bhrajakagni.
- Vagabhatta has described about 23 Agni – Pitta(5), Bhutagni(5), Dhatvagni(7), Dhoshagni(3), and Malagni(3).
- Sharangadhara has recognised five Pitta only. (Pachaka, Bhrajaka, Ranjaka, Alochaka, Sadhaka)

Agni has been divided in to 13 types according to function & site of action. These are -

1. Jatharagni - One Agni present in the Jathara (Stomach & Duodenum).
2. Bhutagni - Five Agni from five basic elements.
3. Dhatwagni - Seven Agni present, one in each of the seven Dhatu.

Jatharagni

Jatharagni is the main important Agni, which oblige and controls the function of all other 12 Agni. Jatharagni is the Agni (bioenergy) present in our Jathara (Stomach & Duodenum). The Jatharagni is considered to be most important because each & every nutrient which we ingest first come to Jathara & is subjected to action from Jatharagni. Jatharagni digests these food materials which consist of five basic elements & transforms it for utilization by respective Dhatu (cells). Jatharagni is also responsible for separation of food material in to the Prasad (essence portion) & the Kitta (waste products) in our body.

Jatharagni is directly related to Dhatwagni (Bioenergy) in the cells & their metabolic processes with ultimate tissue metabolism or Dhatu-Paka process. All the Dhatwagni depend upon the normal healthy state of Jatharagni. If the Jatharagni is Tikshna (hyperactive) or Manda (hypoactive) it will cause an excessive or retarded action of the Dhatwagni respectively. *(Ch. Ch. 15/39-40)*.

Jatharagni is also classified into four categories according to how they manifest in the human being (Ch. Ch. 15/52).

(a) Vishamagni (b) Tikshanagni

(c) Mandagni (d) Samagni

Name of Agni	Predominance of Dosha	Impact on digestion	Manifestations
Vishamagni	Vata Dosha	Sometimes digest the food quickly and sometimes slowly.	Diarrhoea, dysentery, Vatadi diseases, Gulm/ Abdominal tumour, Colic, Flatulence, eructation etc.
Tikshanagni	Pitta Dosha	Very quick digestion of food regardless of the type of food.	Throat, mouth cavity & lips become dry with a burning sensation. (Bhasmak Roga)
Mandagni	Kapha Dosha	Slow digestive power or digestive capacity irrespective of Nature and amount of food.	Produce heaviness in the abdomen and head, excessive salivation, nausea, fatigue.
Samagni	Vata-Pitta-Kapha	Proper digestion.	Swasthavastha

(2) *Bhutagni*

Bhutagni is the one which is present in basic elements (*Bhuta*). There are five Agni in each of the five basic elements namely - *Prithvi* (earth), *Apa* (water), *Teja* (energy), *Vayu* (atmosphere) & *Akash* (free space).

Each and every cell in our body is composed of the five Mahabhutas or five basic elements. Naturally each cell (Dhatu) consists of these five Bhutagni also. All the nutrients in this world which we eat also consist of the same five basic elements with their respective Agni or Bioenergies. So they are completely similar in respect of the five basic elements with their Bhutagni in our body cells as well in all the outside nutrients, which we ingest for nutrition of our body. Acharya Charak has mentioned that five Bhutagnis digest their own part of the element present in the food materials. After the digestion of food by Bhutagni, digested materials containing the elements and qualities similar to each bhutas nourish their own specific Bhautic elements of the body (Ch. Ch. 15/13-14). These Bhutagni act after the Jatharagni present in Stomach & Duodenum acts upon the food & make them disintegrated. In Modern Physiological perspective Jatharagni action can be equated with the digestion in Stomach & Duodenum & Bhutagni action can be equated with conversion of digested materials in the liver.

Dhatwagni

All of the seven Dhatu (seven elements/tissue of the body) contain their own Agni to metabolize the nutrient materials supplied to them through their own srotas.

1. Rasagni present in the Rasa Dhatu. 2. Raktagni in Rakta Dhatu. 3. Mamsagni in Mamsa Dhatu. 4. Medagni in Meda Dhatu. 5. Asthyagni in Asthi Dhatu. 6. Majjagni in Majja Dhatu. 7. Shukragni in Shukra Dhatu.

Each Dhatwagni or the bio energy present in each Dhatu synthesize & transforms the essential Rasa Dhatu required for that particular Dhatu or cell from the basic nutrients present in the Annarasa or essence of our diet which we consume. Each Dhatwagni has got a speciality to synthesize & transform the constituents suitable to its particular Dhatu. This action is a sort of selective action. Acharya Charak has mentioned this fact that seven Dhatu which are support of the body contain their own Agni & by their own Agni they digest & transform the materials supplied to them to make the substances alike to them for assimilation & nourishment (Ch. Su. 28/15).

Explaining briefly the digestive & metabolic functions of Agni Acharya Charak has mentioned that various type of dietetic materials are digested by their own Agni (Bhutagni) encouraged & enhanced by Antaragni (Jatharagni) which is further digested & metabolized by Dhatwagnis to associate the body with the nutritional strength, complexion & happy life along with providing energy to the seven Dhatu (Ch.Su. 28/3).

Literary Review

हितकर एवं अहितकर द्रव्यापेक्षी मौलिक सिद्धान्त

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हितकर एवं अहितकर का विवेचन आयुर्वेद साहित्य में एवं प्राचीन संस्कृत साहित्य में बहुलता से प्राप्त होता है।इस जीवन में और जीवन के पश्चात् की स्थिति दोनो में ही बुद्धिमान व्यक्ति को हित सेवन में संलग्न रहना चाहिए। जीवन का सुख,आनन्द सभी कुछ हितकारी प्रयोगों के अधीन आश्रित है। हित प्रयोग क्या है? क्यों हम हित प्रयोग से दूर होते जाते हैं? शरीर एवं मन का समन्वयात्मक स्वरूप व उसके प्रभावों पर विस्तार से विश्लेषण, उसके द्रव्यापेक्षी मौलिक सिद्धान्तों, अहित प्रयोग के कारण व अहित का अभ्यास होने के दुष्प्रभावों से निवृत्ति के मार्ग की वैज्ञानिकता का मन्थन इस शोध पत्र में प्रस्तुत किया गया है।

हितकर – **'तच्च नित्यं प्रयुञ्जीत स्वास्थ्यं येनानुवर्तते।**
अजातानां विकाराणामनुत्पत्तिकरं च यत्॥'[1]

ऐसे आहार द्रव्यों का नित्य सेवन करना चाहिये, जिससे स्वास्थ्य का अनुवर्तन (Maintenance) होता रहे अर्थात् स्वास्थ्य उत्तम बना रहे एवं जो रोग उत्पन्न न हुये हों, उनकी उत्पत्ति न हो।

'आहाराचारचेष्टासु सुखार्थी प्रेत्य चेह च।
परं प्रयत्नमातिष्ठेद् बुद्धिमान् हितसेवने॥'[2]

इस संसार में और मरने के बाद सुख की इच्छा रखने वाले बुद्धिमान् पुरुष को चाहिये कि वह आहार, आचार और सभी प्रकार की चेष्टाओं में हितकारक वस्तु के सेवन में अधिक प्रयत्न शील रहे ।

हितकर अन्नपान की प्राण से तुलना :-

वर्ण, गन्ध, रस तथा स्पर्श जिस आहार का मनोनुकूल हो और जो आहार विधिपूर्वक बनाया गया हो, वह अन्नपान प्राणिसंज्ञक जीवधारियों का प्राण है। अन्नपान का प्रत्यक्ष फल प्राणधारक होता है। अन्नरूपी ईंधन के रहने पर ही अन्तरग्नि की स्थिति रहती है। वह अन्नपान मन को बल प्रदान करता है, शरीर की सम्पूर्ण धातुओं को समुदाय, बल, वर्ण एवं इन्द्रियों में प्रसन्नता लाने वाला है। वह हितकर अन्नपान होता है।

सात्म्य :-

'सात्म्यं नाम तद् यदात्मन्युपशेते, सात्म्यार्थो ह्युपशयार्थः'॥[3]

जो अपनी आत्मा (शरीर) के लिये सुखकारी हो उसे सात्म्य कहते हैं। सात्म्य का अर्थ ही उपशय का अर्थ है। सात्म्य प्रवर, मध्य, अवरभेद से ०३ प्रकार का होता है। सात्म्य के ये भेद एक-एक रस के प्रयोग से और सभी रसों के प्रयोग के आधार पर किये गये हैं।

सभी रसों का प्रयोग करना सात्म्य, एक-एक रस का प्रयोग करना अवर सात्म्य और तीन-चार रसों का प्रयोग करना मध्य सात्म्य कहा जाता है। अवर और मध्य सात्म्य का क्रम से त्याग करते हुये क्रम से ही प्रवर सात्म्य को उत्पन्न करना चाहिये।

सात्म्य द्रव्यों का क्रम से परित्याग लाभकारी है क्योंकि सात्म्य द्रव्यों का क्रम से त्याग अदोषकारक या अल्पदोषकारक होता है।

'तस्मात्तेषां तत्सात्म्यतः क्रमेणापगमनं श्रेयः।
सात्म्यमपि हि क्रमेणोपनिवर्त्यमानमदोषं वा भवति॥'[4]

*एसोसिएट प्रोफेसर एवं विभागाध्यक्ष मौलिक सिद्धान्त विभाग, डा.एस.आर.राजस्थान आयुर्वेद विश्वविद्यालय,जोधपुर
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अहितकर सात्म्य का भी सहसा परित्याग करने से अनेक प्रकार की हानि होती है।

'असात्म्यजा हि रोगाः स्यु सहसा त्यागशीलनात्'।[5]

सुश्रुत -

रोगों का निग्रह या प्रतिकार सम्यक् प्रयुक्त आहार-विहार से होता है।

.....आहाराचाराः सम्यक्प्रयुक्ता निग्रहहेतवः।।[6]

जो मनुष्य न अधिक रूक्ष न अधिक बृंहण द्रव्यों का सेवन करता हो, उसका अन्नरस शरीर में परिभ्रमण करता हुआ समान मात्रा में धातुओं की वृद्धि या पोषण करता है तथा समधातु होने से मध्य शरीर वाला तथा सर्व प्रकार की चेष्टाओं को करने में समर्थ होता है। क्षुधा, पिपासा, शीत, उष्ण, वर्षा और धूप को सहन करने वाला तथा बलवान् होता है। अतः हितकर आहार-विहार द्वारा सदा शरीर की रक्षा करनी चाहिए।

'आहारादेवाभिर्वृद्धिर्बलमारोग्यं वर्णेन्द्रियप्रसादश्च।
तथा ह्याहारवैषम्यादस्वास्थ्यम्।।'[7]

आहार से ही प्राणियों के शरीर की वृद्धि, बल, आरोग्य, वर्ण तथा इन्द्रियों की प्रसन्नता होती है। आहार की विषमता से अस्वास्थ्य (रोग) उत्पन्न होता है।

शास्त्रीय विवेचन :-

'पादेनापथ्यमभ्यस्तं पादपादेन वा त्यजेत्।'
निषेवेत हितं तद्वदेकद्वित्र्यन्तरीकृतम्।।[8]

अष्टांगहृदयकार ने अभ्यस्त अपथ्य को छोड़ने के लिए इस विधि को बताया है - अभ्यस्त (सात्म्य) अपथ्य को पादांश (चतुर्थांश) पूर्वक या पादपादांश (षोडशांश) पूर्वक त्यागना चाहिए अथवा इसे और अधिक कम मात्रा में घटाना हो तो पादपादांश का भी पादांश (६४वां अंश) ले सकते हैं। इतनी अल्प मात्रा में अपथ्य के अभ्यास को त्यागने से किसी प्रकार के उपद्रव की आशंका नहीं रहती।

'अपथ्य के सभी सात्म्य (अभ्यास) हो जाने पर सहसा त्यागने से अनेक प्रकार के रोग या उपद्रव उत्पन्न हो जाते हैं या हो सकते हैं। अतः अपथ्य (अहित) अभ्यस्त द्रव्य (अफीम, डोडा, भांग, गांजा, स्मैक, गुटखा, शराब (मद्य)) आदि नशीले पदार्थों अथवा जई, कोदों आदि अन्य अहित द्रव्य विधिपूर्वक धीरे-धीरे छोड़े जाने चाहिये।

इस पादांशिक त्याग-विधि में चतुर्थांश, षोडशांश या उससे भी कम मात्रा को प्रतिदिन क्रमशः विधिपूर्वक कम करते हुए छोड़ देना चाहिए, इस क्रमशः त्याग-विधि के कारण कोई भी उपद्रव नहीं होते।

'असात्म्यजा हि रोगाः स्युः सहसा त्यागशीलनात्'।[9]

ऋतुचर्या अध्याय में आचार्य ने सहसा त्याग से असात्म्यज रोगों के हो जाने का उल्लेख किया है।

त्याग-विधि :-

विधि का आचार्य ने उल्लेख किया है कि एकान्तरीकृत, द्वयन्तरीकृत, त्र्यन्तरीकृत। इसकी व्याख्या अरुणदत्त एवं हेमाद्रि ने अलग-अलग प्रकार से की है। यही प्रसंग चरक संहिता सूत्रस्थान ७/३६-३७ में भी आया है, यहाँ चक्रपाणि ने इसकी अलग प्रकार से व्याख्या की है पर उद्देश्य सबका एक ही है, कि अहित द्रव्य को क्रमशः थोड़ा-थोड़ा छोड़ते हुए पूरी तरह छोड़ देना चाहिए। एक साथ नहीं छोड़ना चाहिए।

यहां कुछ व्याख्याकारों के पादांशिक त्याग-विधि पर व्याख्याओं का उल्लेख किया जा रहा है -

१. अरुणदत्त द्वारा निर्दिष्ट विधि :-

प्रथम अन्नकाल में अपथ्य का एक पाद (चतुर्थांश) छोड़ दे एवं उसकी जगह पथ्य के एक पाद का सेवन करे। दूसरे अन्नकाल में सम्पूर्ण अपथ्य ले यह एकान्तरीकृत है। तीसरे अन्नकाल में दो पाद पथ्य एवं दो पाद अपथ्य का सेवन करे। चौथे एवं पांचवे अन्नकाल में सम्पूर्ण अपथ्य ले यह द्वयन्तरीकृत है। इसके बाद छठे अन्नकाल में एक पाद अपथ्य एवं तीन पाद पथ्य का सेवन करे। सातवें, आठवें एवं नवम अन्नकाल में सम्पूर्ण अपथ्य ले। यह तीन अन्नकाल के कारण त्र्यन्तरीकृत है, इसके बाद दशम अन्नकाल से सम्पूर्ण पथ्य ले। यदि पादपादांश क्रम करना हो तो इसी तरह करना चाहिए। यह तब तक करना चाहिए जब तक पादपादांश क्रम पूरा न हो जाय। दशम अन्नकाल में सम्पूर्ण अपथ्य लेकर ग्यारहवें दिन से पुनः एकान्तरीकृत क्रम चालू कर देना चाहिए।

२. हेमाद्रि के मतानुसार :-

हेमाद्रि ने एक द्वि-त्र्यन्तरीकृत का अर्थ दूसरी तरह से किया है। अरुणदत्त ने अन्नकाल की गणना की है जबकि हेमाद्रि ने दिन मानकर गणना की है। प्रथम दिन एक पाद पथ्य तीन पाद अपथ्य, द्वितीय दिन चारों पाद अपथ्य। तीसरे दिन प्रथम दिन की तरह एक पाद पथ्य तीन पाद अपथ्य। यह एकान्तरीकृत है। चौथे दिन से दो पाद पथ्य, दो पाद अपथ्य। पांचवे एवं छठे दिन तृतीय दिन की तरह एक पाद पथ्य एवं तीन पाद अपथ्य। सातवें दिन चौथे दिन की तरह दो पाद पथ्य और दो पाद अपथ्य यह द्वयन्तरीकृत है। चौथे दिन का अभ्यास दो दिन के बाद सातवें दिन करने से दो दिन के अन्तर के बाद किया गया अभ्यास दो दिन के बाद सातवें दिन करने से दो दिन के अन्तर के बाद किया गया अभ्यास होने के कारण द्वयन्तरीकृत है। आठवें दिन तीन पाद पथ्य एवं एक पाद अपथ्य। नवम, दशम और एकादश को सातवें दिन (चौथे दिन में भी यही क्रम है) की तरह दो पाद पथ्य और दो पाद अपथ्य। इन तीन दिनों के बाद बारहवें दिन ८वें दिन की तरह तीन पाद पथ्य एवं एक पाद अपथ्य का प्रयोग करना चाहिए। यह तीन दिन के अन्तर के बाद किया गया पूर्व प्रयोग (८वें दिन का प्रयोग) है। अतः त्र्यन्तरीकृत प्रयोग है। त्रयोदश दिवस में चारों पाद ही पथ्य ले। चतुर्दश दिवस में बारहवें दिन की तरह तीन पाद पथ्य एवं एक पाद अपथ्य का ले। पन्द्रहवें दिन तेरहवें दिन की तरह चारों पाद पथ्य ले। यह फिर एकान्तरीकरण हुआ। इसके बाद द्वयन्तरीकृत, त्र्यन्तरीकृत की आवश्यकता नहीं पड़ती क्योंकि पन्द्रहवें दिन ही चारों पाद की पूर्ति हो जाती है, पर आचार्य ने अन्तरीकृत कर्म की आवृत्ति चतुर्दश दिन भी (द्वादश दिन की तरह) आवश्यक मानकर, पूर्ण क्रम १४वें दिन मान लेते हैं। ऋतुसन्धि भी चौदह दिन की होती है। यदि पादपादांश क्रम करना हो तो भी यही स्वरूप एकान्तरीकृत आदि रहेगा, पर इन तीनों क्रमों (एक-द्वि-त्र्यन्तरीकरण) की ०५ बार आवृत्ति होगी तथा ६३ दिन में यह क्रम पूरा होगा।

३. चक्रपाणि का मत :-

प्रथम दिन पथ्य एक पाद, अपथ्य तीन पाद। द्वितीय दिन सभी अपथ्य, यह एकान्तर है। तीसरे व चौथे दिन दो पाद पथ्य दो पाद अपथ्य। पाँचवे दिन एक पाद पथ्य तीन पाद अपथ्य, यह द्वयन्तर है। छठे दिन पथ्य के तीन पाद एवं अपथ्य का एक पाद। सातवें और आठवें दिन भी यह क्रम रहता है। नवम दिन में दो भाग पथ्य एवं दो भाग अपथ्य। यह तीन दिन के बाद किया गया क्रम है, अतः त्र्यन्तर है। इसके बाद दसवें दिन सभी पथ्य, एकादश, द्वादश एवं त्रयोदश दिन भी यही क्रम चलेगा। इसके बाद चतुर्दश दिन में पथ्य के तीन भाग एवं अपथ्य का एक पाद देंगे, यह चतुरन्तर है। पचदश दिन से सम्पूर्ण पथ्य।

इस प्रकार सभी ने अपने-अपने ढंग से पादांश की व्याख्या की है। इनका सभी का यह उद्देश्य है कि अहित सात्म्य को क्रमशः छोड़ा जाय। इनमें चक्रपाणि एवं हेमाद्रि का विश्लेषण अधिक उपयुक्त लगता है। इसमें भी हेमाद्रि का विवेचन प्रायोगिक व्यवहार के अधिक निकट है।

सहसा त्याग वर्ज्य :-

सहसा छोड़ा गया अपथ्य एवं सहसा सेवन किया गया पथ्य भी सात्म्यासात्म्यज विकार उत्पन्न कर देता है। सात्म्यज अपथ्य के त्याग से विकार हो जाते हैं, इसी तरह पथ्य सात्म्य नहीं होने से सहसा प्रयोग करने पर उस पथ्य से असात्म्यज विकार हो जाते हैं। अतः विधिपूर्वक छोड़ना या प्रयोग करना आवश्यक है।

'अपथ्यमपि हि त्यक्तं शीलितं पथ्यमेव वा।

सात्म्यासात्म्यविकाराय जायते सहसाऽन्यथा॥'[10]

क्रमशः त्याग एवं क्रमशः गुणार्जन का फल :-

'क्रमेणानेन सन्त्यक्ता दोषाः सम्वर्द्धिता गुणाः।
प्रभवन्ति न पीडायै प्राप्नुवन्ति स्थिरात्मताम्'॥[11]

क्रमशः त्यागे गये दोष (दुष्टि उत्पन्न करने वाले अहितकर पदार्थ) किसी पीड़ा (रोग) को उत्पन्न नहीं करते और क्रमशः अर्जित (हितकर पदार्थ के सेवन से) गुण स्थिर होते हैं।

क्रमशः कृत विधि श्रेष्ठ :-

क्रमशः घटाये गये दोष पुनः उत्पन्न नहीं होते तथा क्रमशः उपचित (सचित) किये गये गुण स्थिर होते हैं। सहसा घटाये गये दोष फिर हो सकते हैं तथा सहसा बढ़ाये गये गुण भी विकृति कर सकते हैं अथवा घट या बढ़ सकते हैं अतः क्रमपूर्वक घटाना या बढ़ाना ही उपयुक्त है।

'क्रमेणापचिता दोषाः क्रमेणापचिता गुणाः।
सन्तो यान्त्यपुनर्भावमप्रकम्प्या भवन्ति च॥'[12]

अहित का सात्म्य उचित नहीं :-

अत्यन्त सन्निकट रहने वाले तथा दूषण स्वभाव वाले दोषों का विद्वान् व्यक्ति को अहित आहार-विहार आदि के प्रयोग द्वारा दूषण नहीं करना चाहिए।

'अत्यन्तसन्निधानानां दोषाणां दूषणात्मनाम्।
अहितैर्दूषणं भूयो न विद्वान् कर्तुमर्हति॥' [13]

सात्म्यीभूत अहित एवं अविरुद्ध द्रव्य हानिकारक प्रतीत नहीं होते, तात्कालिक रूप से कोई लक्षण प्रकट करते दिखाई नहीं देते, पर वे जितनी बार प्रयुक्त किये जाते हैं उतनी ही बार एवं निरन्तर दोषों को (एवं उनके द्वारा दूष्यों को भी) विकृत करते रहते हैं। अतः विद्वान् व्यक्ति इन्हें सात्म्य नहीं करे और यदि सात्म्य हो गये हैं तो उन्हें विधिपूर्वक छोड़ देवे।

आचार्य चरक द्वारा पादांशिक त्याग विधि का वर्णन :-

बुद्धिमान् पुरुष को चाहिए कि वह उचित अभ्यास (सात्म्य) किन्तु अहितकर आहार-विहार से क्रमशः अपने को पृथक् करे और सर्वथा हितकर आहार-विहारों का सेवन प्रारम्भ करे। प्रक्षेप (सेवन करना या आहार के रूप में डालना) और अपचय (अहितकर किन्तु सात्म्य आहार-विहार का त्याग करना) इन दोनों के लिए पादांशिक क्रम का आश्रय लेना चाहिए। तदनन्तर एक दिन, दो दिन तथा तीन दिन का अन्तर देकर अहित पदार्थों के त्याग तथा हितकर पदार्थों की वृद्धि का क्रम से अभ्यास करना चाहिए।

'उचितादहिताद् धीमान् क्रमशो विरमेन्नरः। हितं क्रमेण सेवेत क्रमश्चात्रोपदिश्यते।
प्रक्षेपापचये ताभ्यां क्रमः पादांशिको भवेत्। एकान्तरं ततश्चोर्ध्वं द्वयन्तरं यन्तरं तथा॥'[14]

वक्तव्य :-

'प्रथम दिने अपथ्यस्य त्रयः पादाः पथ्यस्य चैकः। द्वितीये दिने सर्वमपथ्यम्, एवमेकेन अन्हा पथ्यपादसहितोऽपथ्य-पादोऽन्तरीकृतः। ततस्तृतीयेदिने अपथ्यस्य द्वौ पादौ, द्वौ च पथ्यस्य। ततश्चतुर्थे पचमे च सर्वमपथ्यम्, एवं पथ्यपादद्वय-सहितमपथ्यपादद्वयं द्वाभ्यामहोभ्यामन्तरीकृतम्। ततः पुनः षष्ठे दिवसे अपथ्यस्य एकः पादः, त्रयश्च पथ्यस्य। सप्तमे अष्टमे नवमे च सर्वमपथ्यम्। एवं त्रिभिरहोभिः पथ्यपादत्रयसहितोप्यपथ्यस्य च एकः पादोप्यन्तरीकृतो भवति। ततो दशमदिने सर्वं पथ्यं सेवनीयम्। इति चरकोपस्कारे योगीन्द्रनाथसेनः।

यत् त्वन्तरशब्दस्य व्यवधानार्थत्वेन प्रथमदिने पथ्यपादापथ्यत्रिपादमानेन भोजनं, ततः परमेकदिनं न तथा भोक्तव्यं,

किन्त्वपथ्यमभ्यस्तं यत्तदेव भोक्तव्यं, तदेकदिनं व्यवधाय तृतीयदिने पथ्यपादद्वयापथ्यपादद्वयं भोक्तव्यं, तदुत्तरं दिनद्वयं न तथा भुक्त्वा किन्त्वभ्यस्तमपथ्यमेव भोक्तव्यं, तद्दिनद्वयं व्यवधाय षष्ठे दिने पथ्यपादत्रयापथ्यैकपादमानेन भोज्यं, तदुत्तरं दिनत्रयं न तथा भोक्तव्यं, किन्त्वपथ्यमात्रमेवेति, तद्दिनत्रयं व्यवधाय दशमे दिने पथ्यचतुष्पादभोजनमपथ्यपादचतुष्टयत्यागः सुतरामिति व्याख्यायते। षोडशांशिकक्रमवादेष्ध्येवं च बोध्यमितिं; तदसम्यक्, अहितस्याभ्यासानुवृत्तेः।' **इति जल्पकल्पतरौ गंगाधरः।**

'पादः चतुर्थो भागः, तद्रूपोष्शः पादांशः, तेन कृतः क्रमः पादांशिकः'। इति चक्रपाणिः।

कुछ आचार्य 'पादांश' शब्द से सोलहवां भाग लेते हैं। यथा 'यदि तु तदपथ्यमभ्यस्तं तथा सात्म्यीभूतं यस्मिंश्चतुर्थांशेनार्घपि त्यज्यमाने शरीरबाधा शक्यते वन्हिमान्द्यं वा, तदा पादपादेन वा षोडशांशेन त्यजेदिति वाशब्दार्थः।' **इति अरुणदत्तः।**

अर्थात् जिस अहितकर आहार आदि का कोई पुरुष अभ्यस्त हो चुका है उसका कर्त्तव्य है कि वह सर्वप्रथम उसके चतुर्थांश या सोलहवें अंश का त्याग करे और उसके स्थान पर हितकर किन्तु जिस आहार का अभी उसे अभ्यास नहीं था, उसके चतुर्थांश या सोलहवें अंश का सेवन करना आरम्भ करे और निम्नलिखित क्रम से अहितकर आहार-विहार को छोड़ता जाय तथा हितकर का सेवन बढ़ाता रहे।

महर्षि अग्निवेश द्वारा निर्दिष्ट क्रम के अनुसार एक दिन, दो दिन एवं तीन दिन आदि का बीच-बीच में व्यवधान (Intervention) देता रहे। यथा पहले दिन पादांश हीन (३ भाग ३/४) अहित-आहार का सेवन और पादांश (१/४ भाग) हित आहार आदि का त्याग करने के बाद दूसरे दिन, प्रतिदिन अभ्यस्त अपथ्य का ही सेवन करे। ऐसा करना 'एकान्तर' कहा जायेगा। तीसरे दिन दो भाग (१/२ भाग) अहित का त्याग और दो भाग हित का सेवन करे। चौथे दिन भी उक्त तीसरे दिन के समान ही अहित का त्याग तथा हित का सेवन करे। पांचवें दिन पहले दिन के समान ही व्यवहार करे। ऐसा करना 'द्व्यन्तर' कहा जायेगा क्योंकि इस विधि से तीसरे और चौथे दिन का अन्तर हो जाता है। छठे दिन एक भाग (१/४ भाग) अहित का त्याग और आठवें दिन छठे दिन की भांति व्यवहार करे। नवें दिन तीसरे दिन के अनुसार विधि करें। ऐसा करना 'यन्तर' कहा जायेगा क्योंकि इस विधि से छठे, सातवें और आठवें दिन का अन्तर हो जाता है। दसवें दिन पूरा-पूरा हितकर आहार का ही सेवन करें। इसी भांति ग्यारहवें, बारहवें और तेरहवें दिन भी हित आहार का सेवन करें। चौदहवें दिन एक (१/४ भाग) अहित आहार का त्याग तथा तीन भाग (१/४ भाग) हित आहार का सेवन छठे दिन की भांति करें। ऐसा करना 'चतुरन्तर' कहा जायेगा। इसके पश्चात् अहित आहार पदार्थों का सर्वथा त्याग कर हित पदार्थों का सेवन करता रहे।

संक्षेप में :-

पहले दिन अहित आहार का १/४ भाग त्याग, हित-आहार का ३/४ भाग सेवन, तीसरे दिन अहित आहार के १/२ भाग का त्याग, हित आहार के १/२ भाग का सेवन, छठे दिन अहित के १/४ भाग का त्याग, हित आहार का ३/४ भाग सेवन, दसवें दिन अहित आहार का पूर्णतः त्याग और हित का पूरा सेवन करना चाहिए।

एकान्तर आदि की पाणिनीय परिभाषा :-

'अस्यतितृषोः क्रियान्तरे कालेषु'।[15] क्रियाम् अन्तरयति व्यवधत्ते, इति क्रियान्तरः। तस्मिन् धात्वर्थे वर्तमानाद् अस्यतेस्तृष्यतेश्च कालवाचिषु द्वितीयान्तेषूपपदेषु णमूल् स्यात्। यथा - द्व्यहात्यासं गाः पाययति। अत्र अत्सनेन तर्षणेन च गवां पानक्रिया व्यवधीयते। तद्वद् एकान्तरादिशब्दप्रयोगेघपि।' ३/४/५७

इसे और अधिक स्पष्ट किया जा रहा है-

जहाँ क्रिया का व्यवधान गम्यमान हो, वहाँ कालवाची द्वितीयान्त पद के उपपद रहते अस् तथा तृष् धातुओं से णमूल् होता है।

उदाहरण-

१. द्व्यहात्यासं गाः पाययति। (= दो दिन के अन्तर से गाय को पानी पिलाता है) 'द्व्यह' द्वितीयान्त पद है। क्रिया का व्यवधान भी है। णमूल् हुआ समास हुआ।

२. द्वयहम् अत्यासं गां पाययति- यहाँ समास न हुआ।

३. द्वयहतर्ष गां पाययति यहाँ भी णमुल् हुआ, समास हुआ द्वयह तृष णमुल्।

४. द्वयहं तर्ष णमुल गां पाययति्। यहाँ समास न हुआ।

चरकानुसार हित-अहित आहार :-

'आहारत्वमाहारस्यैकविधम्॥'[16]

आहार सामान्य से आहारत्व एक ही प्रकार का है।

'आहार्यते गलादधो नीयते इत्याहार:' गले के नीचे द्रव्यों के ले जाने का नाम आहार है।

प्रभावभेद से आहार दो प्रकार :- 'द्विविधप्रभाव: हिताहितोदर्कविशेषात्'

१. हितकर आहार २. अहितकर आहार

प्रकृति (स्वभाव) से हितकर आहार :-

शूकधान्यों में लाल चावल पथ्य में उत्तम है, शमीधान्यों में मूँग, जल वर्ग में आकाशीय जल, लवणवर्गों में सैन्धव, शाकवर्गों में जीवन्ती का शाक, मृगमांसों में एण् (मृग) विशेष का मांस, पक्षियों में लावा का मांस, बिल में रहने वाले प्राणियों में गोह का मांस, मछलियों में रोहू मछली, घृतवर्गों में गो-घृत, दुग्धवर्गों में गाय का दूध, स्थावर स्नेहों में तिल तैल, आनूप मृग की चर्बियों में सूअर की चर्बी, मछलियों की चर्बी में चुलुकी जाति की मछली की चर्बी, जलचर पक्षियों की चर्बियों में श्वेतहंस की चर्बी, चोंच से खोदकर आहार द्रव्य को प्राप्त करने वाले पक्षियों की चर्बियों में मुर्गे की चर्बी, पत्ती खाने वाले पशुओं की मेदो धातु में बकरी की मेदो धातु, कन्दों में अदरख, फलों में मुनक्का, ईख के विकारों में शर्करा स्वभाव से ही आहार-द्रव्यों में प्रधान रूप से हितकर हैं।

सारांश यह है कि जो द्रव्य शरीर के लिये सुपाच्य, हितकर मलविसर्जन में सहायक, धातुनिर्माण में सर्वोत्तम तथा दोषों को प्रकुपित करने वाले नहीं हैं वे हितकर या पथ्य हैं।

अहितकर आहार :-

शूकधान्यों में यवक (जई) परम अपथ्य है, शमीधान्यों में उड़द, जलों में वर्षा ऋतु की नदी का जल, लवण वर्गों में ऊसर से निर्मित लवण, शाकवर्गों में सरसों का शाक, मृग मांसों में गोमांस, पक्षियों में काण (जंगली) कबूतर का मांस, बिल में रहने वाले जीवों में मेंढक का मांस, मछलियों में चिलचिम का मांस, घृतवर्गों में भेड़ का घृत, दुग्धवर्गों में भेड़ का दूध, स्थावर स्नेहों में बर्रे का तैल, आनूप मृगों की चर्बी में भैंस की चर्बी, मछलियों की चर्बी में कुम्भीर नामक मछली की चर्बी, जलचर पक्षियों की चर्बी में काक मद्गु पक्षी की चर्बी, डाल पत्ती खाने वाले प्राणियों में हाथी की मेदो धातु, फलों में बड़हर, कंदों में आलू, ईख के विकारों में राब, ये स्वभाव से ही आहारों में अहितकर द्रव्य हैं।[17]

जो आहार मन को बल प्रदान करता है, शरीर की सम्पूर्ण धातुओं के समुदाय, बल, वर्ण एवं इन्द्रियों में प्रसन्नता लाने वाला होता है वह हितकर तथा इससे विपरीत रूप में किया गया अन्नपान अहितकर होता है।

हितकर तथा अहितकर आहार :-

जल स्वभाव से अन्न को क्लिन्न करता है या शारीरिक धातुओं में क्लेद उत्पन्न करता है।

- लवण रस कफादि के संघात को पतला करता है।
- क्षार पाचन करता है।
- मधु टूटे हुये स्थान को जोड़ता है।

- घृत स्नेहन करता है।
- दूध जीवनीय होता है।
- मांस शरीर को मोटा करता है। रस तृप्ति उत्पन्न करता है।
- मदिरा मांस आदि को शिथिल करती है।
- सीधु (मदिरा) मांस तथा मेदो धातु आदि धातुओं में लेखन क्रिया करता है।
- द्राक्षासव अग्नि को तेज करता है।
- फाणित दोषों को एकत्र करता है।
- दधि शोथ उत्पन्न करता है।
- पिण्याक (तिल की खली) शरीर में ग्लानि उत्पन्न करता है।
- उड़द की दाल मल मूत्र अधिक पैदा करती है।
- क्षार दृष्टि तथा शुक्र को नष्ट करता है।
- अनार तथा आँवले को छोड़कर सभी अम्ल द्रव्य पित्त को उत्पन्न करते हैं।
- पुराने शालि चावल, जौ, गेहूँ को छोड़कर सभी मधुर द्रव्य कफ बढ़ाने वाले होते हैं।
- बेंत का अग्र भाग, गुडूची तथा परवल की पत्ती को छोड़कर सभी तिक्त द्रव्य वातवर्धक और अवृष्य होते हैं।
- पीपल और सोंठ को छोड़कर प्रायः सभी कटु द्रव्य वातवर्धक और अवृष्य होते हैं।

विरुद्ध द्रव्यों की प्रभावहीनता :-

आचार्य वाग्भट ने सूत्रस्थान अध्याय ७ में विरुद्ध द्रव्यों के भी प्रभावहीन होने का वर्णन किया है - नित्य व्यायाम करने वाले, भोजन में स्नेह का (पर्याप्त) प्रयोग करने वाले, दीप्ताग्नि वाले, युवा एवं बलशाली व्यक्तियों को विरुद्ध द्रव्य से कोई पीड़ा नहीं होती है। जिनको विरुद्ध द्रव्य सात्म्य हैं उसको भी पीड़ा नहीं होती तथा यदि विरुद्ध द्रव्य अल्प मात्रा में (अल्प भोजन के रूपों में) लिए जायें तो भी उनसे पीड़ा नहीं होती।

'व्यायामस्निग्धदीप्ताग्निवयःस्थबलशालिनाम्।
विरोध्यपि न पीडायै सात्म्यमल्पं च भोजनम्॥'[18]

इस प्रसंग में माननीय प्रो. बनवारीलाल गौड़, पूर्व कुलपति, राजस्थान आयुर्वेद विश्वविद्यालय, जोधपुर ने अष्टांगहृदय की संवर्तिका व्याख्या में निर्देश किया है कि व्यायाम आदि से शरीर दृढ़ होता है; अग्नि दीप्त होती है, अतः विरुद्ध द्रव्य अपना प्रभाव प्रदर्शित नहीं कर सकते। यहां तीन प्रकार की बात बतलायी है दृढ़ शरीर, विरुद्ध का प्रभाव होता ही नहीं, लेकिन जो विरुद्ध द्रव्य को सात्म्य कर लेते हैं उनमें भी यह प्रभावी नहीं होता। विरुद्ध या अहित द्रव्य को थोड़ा-थोड़ा प्रयुक्त कर सात्म्य कर लिया जाता है। तीसरा स्वरूप अल्प द्रव्य प्रयोग बताया है; यदि विरुद्ध द्रव्य अल्प मात्रा में प्रयुक्त किया गया है तो वह शेष या लक्षण उत्पन्न करने जितना प्रभाव प्रदर्शित नहीं कर सकता। यदि अल्प मात्रा में भी बार-बार सेवन किया जाये तो हानि तो करेगा ही।

पादांशिक त्यागविधि :-

पादांशिक त्यागविधि के द्वारा चतुर्थांश, षोडशांश (चतुर्थांश का चतुर्थांश), ६४ वां भाग (षोडशांश का चतुर्थांश), के किसी क्रम को अहित द्रव्य के त्यागने पर होने वाले दुष्प्रभावों की तीव्रता के अनुसार चयन करते हैं :-

१ ग्राम का १ पाद = २५ मि.ग्रा. २५/४=६२.५ मि.ग्राम

चतुर्थांश १ पाद (२५ मि.ग्राम) का १ पाद = २५/४=६२.५ मि.ग्राम

चतुर्थांश के चतुर्थांश(षोडशांश का चतुर्थांश ६४वां भाग)(६२.५ मि.ग्राम) का १ पाद= ६२.५/४=१५.६२५ मि.ग्रा.

इस प्रकार पादांश त्याग करते हुए हम आवश्यकतानुसार अहितकर पदार्थ की मात्रा, दोष, रोगी के शरीर बल, सत्त्व बल आदि के अनुपात में कोई भी पादांशिक क्रम चयन कर सकते हैं। इस प्रकार इन सिद्धान्तों के प्रयोग हित-अहित की सूक्ष्मताओं की वैज्ञानिकता को प्रदर्शित करते हैं।

सन्दर्भ-

1. च.सू. ५/१३ चौखम्भा भारती अकादमी सन् २००५ काशीनाथ शास्त्री पृ.सं. १०७
2. च.सू. ७/६० चौखम्भा भारती अकादमी सन् २००५ काशीनाथ शास्त्री पृ.सं. १७१
3 च.वि. १/२० चौखम्भा भारती अकादमी सन् २००५ काशीनाथ शास्त्री पृ.सं. ६७९
4 च.वि. १/१९ चौखम्भा भारती अकादमी सन् २००५ काशीनाथ शास्त्री पृ.सं. ६७९
5 अ.स्र.सू. ३/५८ चौखम्भा ओरियन्टालिया वाराणासी सन् २००७ प्रो.बनवारी लाल गौड पृ.सं. ४४
6 सु.सू. १/३५ चौखम्भा ओरियन्टालिया वाराणासी डलहण टीका त्रिविक्रममात्मजेन यादव शर्मणा सन् २००७ पृ.सं. ७
7 सु.सू. ४६/३ चौखम्भा ओरियन्टालिया वाराणासी डलहण टीका त्रिविक्रममात्मजेन यादव शर्मणा सन् २००७ पृ.सं. २१४
8 अ.स्र.सू. ७/४८ चौखम्भा ओरियन्टालिया वाराणासी सन् २००७ प्रो.बनवारी लाल गौड पृ.सं. १४०
9 अ.स्र.सू. ३/५८ चौखम्भा ओरियन्टालिया वाराणासी सन् २००७ प्रो.बनवारी लाल गौड पृ.सं. ४४
10 अ.स्र.सू. ७/४९ चौखम्भा ओरियन्टालिया वाराणासी सन् २००७ प्रो.बनवारी लाल गौड पृ.सं. १४१
11 अ.सं.सू.९/२६ चौखम्भा स्रंस्कृत सीरीज आफिस सन् २०१२ प्रो. पृ.सं. ९१
12 अ.स्र.सू. ७/५० चौखम्भा ओरियन्टालिया वाराणासी सन् २००७ प्रो.बनवारी लाल गौड पृ.सं. १४१
13 अ.स्र.सू. ७/५१ चौखम्भा ओरियन्टालिया वाराणासी सन् २००७ प्रो.बनवारी लाल गौड पृ.सं. १४१
14 च.सू. ७/३६-३७ चौखम्भा भारती अकादमी सन् २००५ काशीनाथ शास्त्री पृ.सं. १६३
15 पाणिनि-३/४/५७ चौखम्भा प्रकाशन वाराणासी श्री नारायण मिश्र सं. २०६१ पृ.सं. २७०
16 च.सू.२५/३६ चौखम्भा भारती अकादमी सन् २००५ काशीनाथ शास्त्री पृ.सं. ४६५
17 च.सू. २५/३९ चौखम्भा भारती अकादमी सन् २००५ काशीनाथ शास्त्री पृ.सं. ४६७
18 अ.स्र.सू. ७/४७ चौखम्भा ओरियन्टालिया सन् २००७ प्रो.बनवारी लाल गौड पृ.सं. १४१

Clinical Study

Study On Improvement Status Of Gross Motor Functions In The Children suffering from Cerebral Palsy Using Syrup *Varadadi Yog* & *Panchkarma* Procedures

*Dr. Vidya Bhushan Pandey, ***Prof.Abhimanyu Kumar

Abstract

Cerebral Palsy is a non progressive disease having a lesion in the brain due to an obscure aetiology prenataly, nataly or postnataly however prenatal causes are dominant worldwide .In this disease there is a gross delay in the development of motor functions along with some associated symptoms according to the location and severity of the brain lesion. There is no control on the incidence of the Cerebral palsy (CP) since last three decades in spite of the best Anti natal care and medical facilities however the survival of the premature and low birth babies is a big risk of developing cerebral palsy in future .The management possible present is physiotherapy , management other than this are temporary and symptomatic .The pharmacological medications are centrally acting muscle relaxants which cause potential side effects on their regular use .Surgical Managements are restricted only to a particular age groups having mature neuromuscular system & musculoskeletal skeletal system ,although multiple surgeries are required for the desired result which makes economical and psychological burdens over the sufferers family .Ayurveda as an Indian system of medicine has a pronounced role in the management of the neuromuscular and musculoskelektal problems .Ayurvedic drugs and *panchkarma* procedures have their strength in dealing with CP like condition. In the study Ayurvedic treatment regimen along with the physiotherapy have shown much better improvement over the conventional Physiotherapy alone.

Key words – Cerebral Plasy, Gross motor Functions, Ayurveda, Panchkarma, Shirodhara.

सारांश–

सेरिब्रल पाल्सी में मष्तिष्क पर एक आघात लग जाता है जोकि जन्म के समय, पूर्व एवम् पश्चात् किसी भी कारण से हो सकता है मष्तिष्क जन्य आघात से शारीरिक मांसपेशियों का खिँचाव सामान्य से अधिक हो जाता है जोकि शारीरिक संकोच के रुप में दिखायी पड़ता है, जिससे शरीर का सन्तुलन नहीं बन पाता है यह संकोच मांसपेशियों को दुर्बल करता रहता है परिणाम स्वरुप पीड़ित बालक चलने में असमर्थ हो जाता है आधुनिक चिकित्सा जगत मे फिजियोथेरिपी एकमात्र स्थापित उपचार है एवं अन्य उपलब्ध चिकित्साएं लक्षण शामक मात्र है जिसके अधिक प्रयोग से कई शारीरिक दुष्प्रभाव भी हो सकते है आयुर्वेदीय चिकित्सा प्रणाली गत पंचकर्म एवम अन्य औषधियों का तन्त्रिका जन्य एवं मांसपेशी गत रोगों मे अच्छा प्रभाव सर्वगत है। अतः इस अनुसंधान कार्य में इन्ही औषधियों एवं पंचकर्म का प्रयोग स्थापित फिजियोथेरिपी के साथ कर सेरिब्रल पाल्सी रोग मे लाभ जानने हेतु किया गया है।

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Clinical Study

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Introduction

Cerebral palsy is a complex disease of variable presentation. It presents with the primary problem of the gross motor dysfunction .Gross motor function in the Cerebral palsy evident according to the lesion present in brain .Primary injury to the Central Nervous System (C.N.S.) produces early feature like spasticity, hyper reflexia, and contraction, loss of selective motor control, sensory deficits and poor balance[1].

The aetiology varies according to the phase which may be prenatal, natal or post natal .However prenatal causes are considered as a measure factor now days. Hence a proper care should be taken to avoid risk factors during this period .The fundamental picture lies behind the brain as a lesion which is graded as H.I.E. (Hypoxic Ischemic Encephalopathy)[2] levels according to the extent of severity. As the severity of the lesion changes, the clinical picture also varies accordingly. Among the various types of C.P., spastic C.P. has shown dominance (89%)[1]. Various management procedures are used to relieve spasticity but none of them is able to yield a possible cure, conversely their regular use may produce serious side effects.

Gross motor behavior has two main features: function and performance[2]. Gross motor function describes the achievement of particular motor activities, like sitting independently for 10 seconds. Gross motor performance describes the quality of a motor activity. To measure the status of gross motor functions a scale known Gross Motor Function Classification System Scale (GMFCS) [3]used to describe the functional abilities and limitations in motor function of children with CP. The emphasis is on sitting and walking. The purpose is to classify child's present gross motor functions. Five levels are used in the GMFCS from very mild to very severe. The levels are based on the functional limitations, the need for assistive technology and wheeled mobility. It is easy to use and takes 5-15 minutes to classify a child's ability indifferent levels takes. In the present study GMFCS scale was used for assessment.

Conventional management of C.P. is primarily based on standard physiotherapy .Ayurvedic modalities along with standard physiotherapy having a pronounced role in the neuromuscular diseases management were evaluated in this trial to pave a new way in the management of gross motor dysfunction in Cerebral palsy.

Concept of the Gross motor delay in the Ayurvedic texts

Gross motor Delay in Ayurveda can be correlated with the symptom of a disease called as *Phakka roga*[4] in which it is said that a child who is one year old is not able to stand properly[4] called as *phakka rogi* . Ayurveda has also described about milestones of development in a very special manner like in 5th month baby should allowed to sit on the floor[6] for some time with support and also he should start

Materials & Methods

Source: Patients of Cerebral palsy for present clinical study were selected from O.P.D. /I.P.D. of Balroga Department of National Institute of Ayurveda, Jaipur (Rajasthan).

Age: Children of age group 1 – 12 years.

Out of total registered 51 patient 18 cases were dropped out. Hence the study was conducted on total 33 patients which were randomly divided into three group. Each group was having 11 children suffering from C.P.

- **GROUP A** —— Physiotherapy
- **GROUP B** —— Physiotherapy +*Panchkarma procedures*

- **GROUP C ——** Physiotherapy + *Panchkarma procedures* + Oral drug (*Varadadi yoga*)

Method

The study was conducted out as randomized clinical trial to evaluate the efficacy of the selected *Ayurvedic* treatment modalities in relieving the signs and symptoms of spasticity in Cerebral palsy. Physiotherapy being the standard rehabilitation procedure it was allowed to continue in all 3 groups.

Duration of trial: 6 months

Criterias Adopted

A. Inclusion criteria

- Age group 1 to 12 years of either sex.
- Diagnosed case of Cerebral palsy.

B. Exclusion Criteria

- Individuals below 1 yr and above 12 yrs. of age.
- Progressive neurologic disorders.

C. Discontinuation Criteria

- Parents/guardian not willing to continue treatment.
- Patients develop life threatening complication during treatment.
- Any other acute illness.

D. Assessment Criteria:

1. Gross Motor - Function Classification System Scale (GMFCS)[3]

I-Study Drug

Syrup *Varadadi Yog* (Coded as Syp.VRD)- A hypothetical compound containing 8 herbs was selected for the present study. These drugs were selected on the basis of their properties beneficial in the management of Cerebral palsy. These drugs are listed in the table (Table no.1) along with their parts used and concentration.

uttering some speech along with walking at one year[5]. There are some rituals performed called as *samskaras*[7] in which a child need to be examined by a paediatrician for their proper growth and development .However exact correlation of delay in milestone cannot be correlated with *Phakka* disease only , other symptoms present in Cerebral palsy are having near correlation with the *Vata Vyadhi lakshanas*[8] where the main cause is vitiation of *Vata dosha* .Hence a proper management is required to pacify the *Vata dosha* symptoms for proper management of the disease.

Aims & Objectives

The study aim was to show the effect of *Ayurvedic* modalities with physiotherapy. The present research study was undertaken with the following objectives-

- To enhance the functional capacities of the children in order to make him/her self dependent.
- To improve quality of life of the patients of Cerebral palsy

Table No.1 Showing content of syrup "*Varadadi Yog*"

S. No.	Name	Botanical name	Part used	Ratio
1	***Ashwagandha***	*Withania sominiferum*	Roots	2parts
2	***Vidarikanda***	*Pureria tubrosa*	Tubers	2parts
3	***Sahinjana***	*Moringa oliferia*	Bark	2parts
4	***Tagara***	*Velleriana wellichi*	Roots	1part
5	***Amallaki***	*Emblica officinalis*	Fruits	1part
6	***Brahmi***	*Bacopa moneri*	Whole plant	1part
7	***Mandukparni***	*Centella asciatica*	Whole plant	1part
8	***Pippali***	*Piper longum*	Fruits	¼ Part

Doses Schedule- 1 ml/Kg/day in three divided Doses for 6 months. Children were called for follow up after end of every one month.

II. *Panchkarma* Procedures

The following procedures were carried during clinical trial

- *Abhyanga*
- *Shastik Pinda Sweda*
- *Shirodhara*
- *Matra Basti*
- *Patta bandhana.*

a) Abhyanga

Abhyanga or Ayurvedic massage *by Mashsaindhava sadhiata* oil (coded as MSS oil) was offered to all cases as explained in *Vata vyadhi* chapter[9] for 15 to 20 mint/day.

b) Shashtik Pinda Sweda

It is the process of sudation under type of *Shankar sweda*[10] in which fomentation is induced artificially for removing blockage of *srotasas* .In this process coarse grinded *Sashtik* rice (Oryza sativa) was boiled with medicated milk. Boiled rice was transformed in a tightly wrapped pudding of cotton clothes four in number soaked in medicated milk[10]. These cloth puddings were rubbed over the body for a fixed duration in a specific direction for inducing fomentation for 30 to 35 mins/day.

c) Shirodhara

Pouring the medicated cow milk {milk mixed with equal amounts of *Bala mula*(Sida cordifolia) decoction} over forehead of the patient in the form of regular stream from specific height if 8cm[10] in a fixed oscillatory movement. 30 to 45 mins/day continuously.

d) Matra vasti

Administration of *Prasarni* oil via anorectal route in a fixed dose as directed in previous research work by inserting the catheter 4 *angulas* (approximately 7.5cm) inside the anal sphincter is known as *matra vasti*[10].

e) Patta bandhan

Patta bandahana is the process in which cotton crape bandage is tied around the affected part of body for 3 to 4 hours[11] just after completion of *panchkarma* procedures. Bandaging procedure again performed at the night till next morning[12]. This process should be started after one week of *panchkarma* so that stiffness of the effected part become slightly soft.

Discontinuation of the *Panchkarma* procedures

Every 4th week of each month all the procedures of *panchkarma* were stopped , however physiotherapy and the oral drug were continued .Rest of the three weeks all procedures were continued as usual .This regimen was followed throughout the trial of six months. The gap of seven day was taken as *panchkarma* procedures are liable to become "*Satmya*"[13] that is becoming habitual which slow down the effect of procedure.

III-Physiotherapy

Physiotherapy being standard way of the management of spasticity is taken in this trial .Following three types of exercises were framed[12].

1- Muscle Stretching exercises.

2- Muscle strengthening exercises

3- Range of motion exercises

Observations

Table No.2 Showing incidences dominating with percentage status. (n=33)

Incidence	Predominance	Percentage (%)
Age in yrs	1 – 4	54.55
Sex wise division	Male	60.60
Religion	Hindu	72.73
Habitat	Urban	69.70
Socio-economic status	Middle lower	48.48
Family structure	Nuclear	69.7
Consanguineous marriage	Absent	75.76
Mothers Age of Conception	Appropriate	81.82
Antenatal Care status of Mothers	Proper	72.73
Birth Order	First	60.61
Mode of Delivery	Normal	63.63
Place of Delivery	Hospital	81.82
Status of Foetus Presentation	Vertex	90.90
Birth Maturity Wise Division	Full term	60.60
Birth Weight wise division	Normal	51.52
Birth Asphyxia	Present	54.55
Pre Natal Factors	Normal	57.58
Natal Factors	Low Birth Weight (L.B.W.)	57.57
Post Natal Factors	Hypoxic Ischemic Encephalopathy	45.45
Status of *Kostha*	*Krura*	66.66
Sleep Pattern	Disturbed	48.48
Presence of Associated Problems	Speech	51.51
Sub classification of Spastic CP	Diplegia	42.42
overall etiological factor	Natal	90.91

Results: Gross Motor

Function Classification System Scale (Gmfcs):

Table No. 3: Showing Effect on Gross Motor Function Scale in Group A:

Sr. no	Duration	Mean (n=11)			% change	S.D. ±	S.E. ±	't' value	'p' value	Result
		BT	AT	Diff						
1	2 month	4.00	4.00	0	0	0	0	-	-	-
2	4 month	4.00	3.9091	0.2857	2.2727	0.3015	0.0909	1.00	>0.05	I.S.
3	6 month	4.00	3.6364	0.3636	9.0909	0.5045	0.1521	2.3905	<0.05	Significant

IS=Insignificant S=Significant

Table No. 4: Showing Effect on Gross Motor Function Scale in Group B:

Sr. no	Duration	Mean (n=11)			% change	S.D. ±	S.E. ±	't' value	'p' value	Result
		BT	AT	Diff						
1	**2 month**	4.00	3.8182	0.1818	4.5455	0.4045	0.122	1.4907	>0.05	I.S.
2	**4 month**	4.00	3.3636	0.3636	9.0909	0.5045	0.1521	2.3905	<0.05	S.
3	**6 month**	4.00	3.0909	0.9091	22.727	0.7006	0.2113	4.3033	<0.01	S.

IS=Insignificant S=Significant

Table No. 5: Showing Effect on Gross Motor Function Scale in Group C:

Sr. no	Duration	Mean (n=11)			% change	S.D. ±	S.E. ±	't' value	'p' value	Result
		BT	AT	Diff						
1	**2 month**	4.2727	4.000	0.2727	6.383	0.4671	0.1408	1.9365	>0.05	I.S.
2	**4 month**	4.2727	3.8182	0.4545	10.63	0.5222	0.1575	2.8868	<0.02	S.
3	**6 month**	4.2727	3.2727	1.00	23.40	0.6325	0.1907	5.244	<0.001	H.S.

Table No.6. Showing intergroup comparison evaluating 'mean difference of BT & AT' in different groups by using ANOVA test

Sr no.	Inter Group comparison	Mean df(n=11)	' q ' value	' p' value	Result
1.	**A – B**	0.5455	2.928	>0.05	Insignificant
2.	**A—C**	0.6364	3.416	>0.05	Insignificant
3.	**B – C**	0.09091	0.4880	>0.05	Insignificant

Graphical Represenation Of Improvement Percentage Variation In Different Groups

Discussion

Age profile of the registered patients (table no.2) shows that maximum patients were in age group 1 – 4 years with male predominance. Similar results were found by Izuora et. al. (1987), S.Jarvi et. al. (2005). Further dominant habitat were urban(69.70%) while socio economic condition found is middle lower (48.48%) cases which is similar to study of Dolk et. al. (2001) ,and Dowdeng et. al. (1990) .Role of consanguinity was not found dominant in this study probably because of dominant Hindu society however consanguinity association of CP was established by Al-Rajah et. al. (1991).

Mother's age at conception was found appropriate (97%) in maximum cases. ANC care was also found appropriate in 72.73% of cases. Birth order of effected children was observed in 60.61% cases which is similar to the study of EL-Tailawayet et.al.(2011) . Mode of delivery was normal in 63.63% cases similar to the Indian data as found by Pratibha Singhi et. al. (2002)[14] which is contradictory to world wide data (V.B. Gupta et. al. 2001)[17] .Place of delivery was hospital in 81.82% cases which shows increase in awareness and benefits of hospital delivery but surprisingly even the approach of institutional delivery is not able to control CP incidences as evident from this study and in other where it was 6.45/1000 in Asian society shown by Sinha G.et. al. (1997). In 90.90% cases fetal presentation found vertex, however abnormal fetal presentation have strong connection with CP as established by Torfs et. al. (1990).

In birth maturity 39.40% were full term similar to the study of Pratibha Singhi[15] et. al. (2002) however it is contradictory to the world wide data of prematurity showing its relation with CP (Callaghan et. al. 2011) .Birth weight was found normal in 51.52% of subjects followed by 33.33% with low birth weight 06.06% of ELBW and 03.03% of VLBW cases. This reflects the fact that survival of VLBW and ELBW cases in Indian atmosphere has strong connection with CP in future (V.B. Gupta et. al. 2001)[17].Relation of birth asphyxia was common in 54.55% cases similar to the data of V.B. Gupta et. al.(2001)[17]. Among the causal factors natal factors were found 90.91% cases, similar to the Indian study (Nonica et. al.1997)[16] but contradictory to the worldwide data of high prevalence of prenatal factors (Palmer et. al. 1995).This shows unawareness of Indian population towards problems occurring due to improper care, prenatally.

Kostha was found *krura* in 66.66% of cases, supports the *Vata dosha domonance*[13A] in the Cerebral Palsy patient's. Sleep pattern was disturbed in 48.48% cases due to associated convulsions and increased startles reflex. Among associated problems speech dysfunctions were found in maximum 51.51% of cases similar to the study of V.B. Gupta[17] et. al. (2001). Sub types of CP has shown spastic dilplegia in 42.42% cases which is similar to the Indian study of Pratibha Singhi[14] et. al.(2002), while worldwide data was

dominant for spastic quadriplegic (V.B. Gupta et. al. 2001)[17].

The effect of various type of therapies on Gross Motor Function Scale (GMFCS)-
Group A cases received physiotherapy alone produced no results after 2 months ,after 4months only 02.27 % change was observed which was statistically insignificant($p>0.05$) while significant results ($P<0.05$) comes at the end of 6th month with 9.09% of change (Table no. 3). In group B received physiotherapy and *panchkarma* procedures, insignificant (>0.05) results were present at the end of 2nd month with 4.45% of change while after 4 months results become significant ($p<0.05$) which have shown 9.09 % of change, however at the end of 6th month result become more significant ($p<0.01$) and percent changes occurred was 22.72 %.(Table no. 4)

Group C cases received physiotherapy ,*panchkarma* procedures and oral drug syrup *Varadadi yog* after 2nd month assessment shows insignificant ($p>0.05$) results with change of 06.38% while at 4th month significant($p<0.02$) result was found with change of 10.63% later at the 6th month assessment has shown highly significant($p<0.001$) results with percentage change of 23.40%.(Table no. 5). Intergroup comparison using ANOVA test evaluating ´mean differences of BT and AT readings' among three different groups was found insignificant ($p>0.05$) (Table no. 6) reflecting the fact that though individually groups have shown a different pattern of improvement but no remarkable change in intergroup analysis.

GMFCS scale is the most important scale and globally well accepted used for evaluation of the therapy changes in the Cerebral palsy .However in the observed results, physiotherapy brought significant results at the end of the trial however in the 2nd and 4th month these were not significant .Group B and group C have shown significant changes by the end of 4th month however above all group C shown highest significant changes at the end of trial .It shows there are typical changes present by the end of 4th month and theses changes get maintained or get enhanced by the end of trial which is not evident with only physiotherapy group .Hence the Ayurvedic modalities have an upper hand in the percentage improvement over physiotherapy alone.

Discussion on procedures

a. *Abhyanga*

Abhyanga or Ayurvedic massage therapy was done by using *Mashsaindhava sadhita* oil (coded as MSS oil) which has been indicated for the spastic conditions (*sankuchan*) in Ayurvedic literatures[9]. This therapy gives two way benefits by providing relief in spasticity and also providing nutrition to the spastic & weakened muscles .Absorption of oil through transcutanious route was well established by Solanki K. et. al. (2005)[18] and as a result improvement in growth and neurobehaviour of babies (Arora J. et. al. 2005)[19] .In addition to that relief in spasticity via light massage therapy was proved by a study (Maria et. al. 2005)[20] in children suffering from CP.

b. *Shastik Pinda Sweda*

Ayurvedic sudation technique is performed by using Shashtik rice (Oryza sativa) which contains high gelatinization property[21], high gel holding capacity[21] & high rheological properties[21] along with high nutritional values[22]. Thus helps in proper sudation and nourishment of already weakened muscles. First three properties make a strong bond to hold the gel during sudation help in conserving heat that result in vasodilatation and increased transcutanious blood circulation & proper cleansing of the transport channels inside the body via sweating. Further with regular use nutritional action of oryza rice comes into play providing adequate nourishment to weakened spastic muscles properly[23]. The overall effect increases the power of muscle and thus resulting into the improved Gross motor functions of the body.

c. *Shirodhara*

Shirodhara produces a symaptholytic situation which was evidenced in a trial performed by Kazuo uebaba et. al. (2005)[24]. This situation induces bradycardia and relative suppression of LF/HF power spectrum density, which indicated lowered sympathetic tone[16]. These metabolic, ECG, and EEG findings support the reported experiences of relaxed and low metabolic states during shirodhara. Physiological changes during shirodhara shows a-wave dominance in the frontal area and a decrease in heart rate and CO_2 excretion. These findings indicated a change in the function of the frontal lobe, limbic system, brain stem, and autonomic nervous system. This shows the anxiolytic effect of the shirodhara result in decrease

secretion in noradranaline ration exhibiting sympathlytic effect[25]. This effect reduces the stress level of the CP patient resulting into relaxation of stressed spastic muscles, enhancing improvement in gross motor functions.

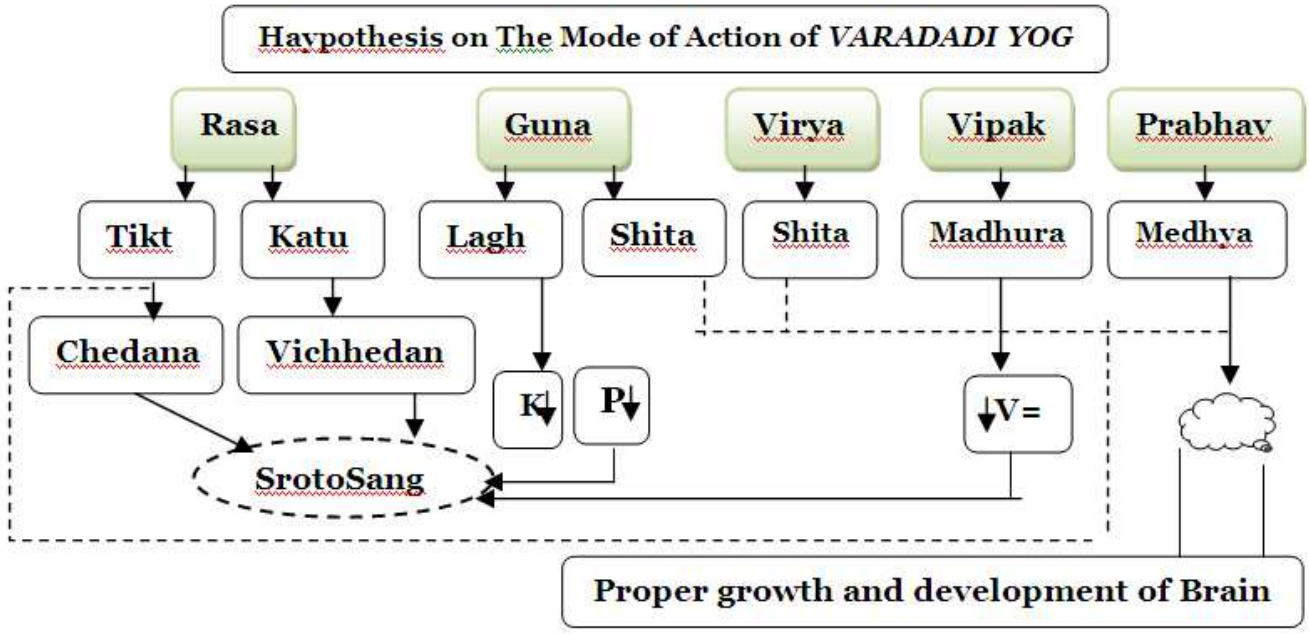
d. *Matra vasti*

Use of *Prasarni* oil in the *matra vasti* had help in various extents as administration of the drug through anorectal route is the best way in the children as lypophillic nature[26] of anorectal mucosa which facilitated in increased absorption of medicated oil .Drugs given through anorectal route spares themselves from 1st pass metabolism of liver making high concentration in blood and long durational therapeutic effect[26]. *Prasarni taila* has good action on the neuromuscular disorder to help in pacification of the *vata dosha*. Glycerrhiza (*Mulethi*)[27] one of the content of this oil posses antispastic action helped in relieving the spasticity and thus resulting into improved gross motor functions of the spastic CP child.

e. *Patta bandhana*

Use of this modality was famous since the period of Acharya Sushruta[19] *(2nd centuary BC)* where it has been advocated in situation of spasticity (*sankuchan*) and rigidity(*jadyata*) in addition to the diseases related to the ligament and muscles (*Snayu gat vat vyadhi*)[11]**.** Doing some technical modification by using Poly Vinyl Chloride (P.V.C.) splint support along with bandaging with cotton crape bandage helped in proper alignment of the body resulting into the improved balance and mobility. Long term use of this *patta bandhana* provided proper stretching of the spastic muscles preventing future contractions and bony deformities. All over result helped in improved mobility thus picking up better functional capacity.

Probable effect of study drug *Varadadi* yog



Varadadi Yog due to increased concentration of the *madhur vipak* drugs played the leading role in pacifying vitiated *vata dosha*[28]. In addition to this the drug are having *medhya prbhav*[30] which helps in regulating and enhancing brain functions normally.

The content of study compound *Vardadi yog* might have helped in improving the lesion present in the brain due to ischemic injury by the way of neuronal regeneration[31]; arborisation and synaptic reconstruction in *Mandukparni*[32], *Ashwagandha*[33]

and Vidarikanda[34] Other neuro nutirent[23] and neuro propective[23] effect present in *Mandukparni*[35], *Tagar* (Dunaev, V.V.et.al. 1987) *and Brahmi*[35] produce possible protection to the further damage of the neuron due to oxidant injury.

Muscle relaxant effects present in *Aswagandha*[36] *& Shigru*[37] relived spasticity. *Ashwagandha* with Tropine protein having the binding energy value of 5.41696(KJ/Mol) with three hydrogen bonds along with methanolic extract of bark of Moringa olifera (MBE) which shown effect on acetylcholine (Ach) induced contraction on isolated skeletal muscle in an study however the extract has not produced any effect of its own ,but has inhibited the Ach induced contraction with ED50 being 2.5x 10-3, pA2 value of 3.74 and slope of schild plot 0.7 effect have been compared with those of standard skeletal muscle relaxant d-tubocurarine. *Vidarikanda*[38] and *Tagar* (Hazelhoff B. et. al. 1982) relax stimulated smooth muscle cells by acting as musculotropic agents and not by interacting with receptors of the autonomic nervous system.

The overall effects of the oral drug result in to the improved functional capacity of the Cerebral palsy patients and thus showing the efficacy of the Ayurvedic modalities in combination with physiotherapy than physiotherapy alone.

Conclusion

- Physiotherapy being standard way of improving gross motor functions in CP children has proved yielding significant result at the end of trial.
- CP children who received *Panchkarma* procedures and *Ayurvedic* compound present with better changes than physiotherapy alone, at the end of trial.
- There was speedy and early recovery / improvement in children receiving *Panchkarma* procedures and addition of Ayurvedic compound, respectively in comparison to physiotherapy alone.
- No any adverse effect of the modalities was reported in this trial.

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Clinical Study

Ayurvedic Therapy For The Management Of Major Depressive Disorder

*Dr. MD. Nazmul Huda, **Dr. Naresh K. Kumawat, ***Dr. Alok Tyagi, ****Dr. Daya Shankar Mishra

Abstract-

This study was undertaken to assess the antidepressant effect and safety of an Herbal preparation and Shirodhara (oil dripping) therapy for the treatment of major depressive disorder. Total forty five patients with mild and moderate type of major depressive disorder were included in a non blind randomized controlled, open label, using pretest – posttest design. Patients were divided into two groups named as group 1(active control group), was given fluoxetine 20 mg daily two time for consecutive days and group 2 (experimental group). Experimental group was again subdivided into subgroups 2a and 2b and was given 6 herbal capsules (each capsule contained 500 mg powder of nordostachys Jatamansi and Lavandula stoechas) into three divided dosages for 42 consecutive days in both subgroups. Additionally the Shirodhara therapy with plain Ashwagandha oil was applied in subgroups 2b for first 14 consecutive days. For the measurement of efficacy, subjective parameters clinical symptoms was measured and objective parameters included Hamilton Depression rating scale 17 items(HDRS17), the clinical Global Impression Severity(CGI-S), and Improvement scales(CGI-I) was administered at baseline within 14, 28 and 42 day. For safety evaluation, adverse effects such as dry mouth, headache, nausea, somnolence, sweating, restlessness, constipation, dizziness, sexual dysfunction, anorexia and vital signs included blood pressure, pulse rate; body weight was monitored at each visit day of patient. The laboratory examinations such as hematological, Biochemical and Electrocardiogram were investigated at baseline and the day of 42. End of treatment, the clinical symptom and the HDRS, CGI-S or CGI-I score was found significant improvement in experimental subgroups when compared to baseline. In intergroup comparison the highest improvement; near to normal was found that in subgroup 2b when compared to standard control group 1. So this study was showed that selected herbal preparation and Shirodhara therapy has the antidepressant effects on mild and moderate condition of major depressive disorder.

Key Words: Major Depressive Disorder, Herbal capsule, Ashwagandha oil and Shirodhara therapy.

सारांश–

मुख्य अवसादक विकारों में चिकित्सीय शोधकार्य के लिये वानस्पतिक योग व शिरोधारा पद्धति का प्रयोग तनावहर व सुरक्षित प्रभाव के लिये 45 रोगियों पर किया गया। यह प्रयोग दो समूहों में किया गया जिनमे समूह – एक को टेबलेट फ्लेक्सीटीन बीस एमजी रोजाना दो बार 42 दिन के लिये दी गई। समूह दो को पुनः दो उपसमूह में विभाजित किया गया। उपसमूह 2 ए और 2 बी को छह वानस्पतिक कैप्सूल रोजाना तीन बार 42 दिन के लिये दिया गया तथा साथ ही उपसमूह 2 बी को शिरोधारा तेल के साथ 14 तक प्रयोग किया गया। वानस्पतिक योग व शिरोधारा पद्धति का तनावहर व सुरक्षित प्रभाव जानने के लिए (HDRS 17), (CGI-S), (CGI-I) व आयुर्वेद मानकों का प्रयोग 12,28,42 दिन पर किया गया। चिकित्सीय शोध–कार्य के अन्त में आधुनिक व आयुर्वेद मानकों में उत्तम परिणाम प्राप्त हुए।

अतः प्रस्तुत शोधकार्य में 45 रोगियों पर अध्ययन के पश्चात् मुख्य अयसादक विकार में वानस्पतिक योग व शिरोधारा पद्धति का चिकित्सीय प्रयोग सुरक्षित व प्रभावकारी सिद्ध हुआ है।

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Clinical Study

Ayurvedic Therapy For The Management Of Major Depressive Disorder

Dr. MD. Nazmul Huda, Dr. Naresh K. Kumawat, Dr. Alok Tyagi, Dr. Daya Shankar Mishra

Introduction:

Major depressive disorder (MDD) is a one of the most commonly encountered psychiatric disorder. According to World Health Organization (W.H.O.), depression is the leading cause of disability as measured by years lost due to disability (YLDs) and the 4th leading contributor to the global burden of disease in 2000. By the year 2020, depression is projected to reach 2nd place for all ages and among both sexes[1]. Approximately 5% population has major depression at any given time, with experiencing a life time risk of 7-12% and women 20-25%[2]. It is estimated that the life time prevalence as high as 21% of the general population in some developed countries[3]. Major depression is associated with significant personal societal and economic burden also. It is estimated that the cost of the depression in 2003 was $ 83.1 billion, including 26.1 billion in direct cost, $5.4 billion in suicide related mortality and $ 51.5 billion in workplace costs. Depressive symptoms are also found in up to 36 % of all medically ill patients and comorbodity of MDD with medical illness[4]. So it is a worldwide problem. Patients are treated with various antidepressant medications in modern scientific medicine but more than 50% patients; discontinue antidepressant treatment due to the side effects or insufficient response. Such patients are often reluctant to take synthetic antidepressant drugs in their appropriate doses due to their anticipated side effects including dry mouth, constipation and sexual dysfunction. So there is a need for more effective, less toxic and cost effective anti depressant treatment. Ayurvedic herbs may offer advantages in term of safety and tolerability, possibly promising results for the treatment of depression. Besides, the recent scientific study also showed that some Ayurvedic plants such as Nordostachys Jatamansi[5], Lavandula stoechas[6], and withania somnifera[7], etc. individually reported for the treatment of depressive disorder synergistic effects is not known exactly. In traditional ayurveda, mental-emotional illness is not only treated through the medicine but also use of such therapy like Shirodhara (oil dripping) therapy[8]. Shirodhara therapy was first originated from Karalia Panchakarma that is characterized by dripping oil on the forehead. It is also helpful in headache, mental stress, insomnia, depression, motor neuron diseases and several types of mental disorders[9]. So keeping in view all the above facts the present study was undertaken.

Aim and Objectives:

The study was undertaken with the following specific objectives-

- To assess the effectiveness of a Herbal preparation and Shirodhara (oil dripping) therapy for the management of major depressive disorder.
- To assess the safety after using that Herbal preparation and Shirodhara (oil dripping) therapy.
- To acquire scientific and clinical data on that preparation as an initial endeavor to standardize herbal formula as an effective treatment of depression.
- To compare the effectiveness of herbal preparation and Shirodhara therapy with a standard drug.

Materials and Methods:

The study was a non blind, randomized, clinical trial using pretest-posttest design and the study population was collected from the OPD and IPD of P.G. Department of Kayachikitsa at Arogyashala, National Institute of Ayurveda and SSBH, Jaipur (Raj.) and Department of Psychiatry, SMS Medical College and Hospital, Jaipur (Raj.). Sample size was forty five number of patients and who was diagnosed according to Diagnostic and Statistical Manual of Mental Disorders, fourth edition, (DSM-IV) in initial screening for major depression.

Inclusion Criteria:

The following inclusion criteria was followed for selecting the patients-

- Males or females between the age of 20 and 65 years old.
- Subjects who were fulfilled the DSM-IV criteria for the diagnosis of major depressive disorder without psychotic feature and with single or recurrent episode for minimum two weeks.
- Subjects who had mild or moderate major depressive disorder and must had minimum total score at least 10 and maximum 18 on the 17 item of Hamilton Depression rating scale 17 items (HDRS17) at baseline visit.

Each subject was a level of understanding sufficient to agree to all required tests, signs and examinations an informed consent document.

Exclusion Criteria:

The following was followed as exclusion criteria for selecting the patients-

- Age less than 20 and more than 65 years.
- Present use of prescription drug for major depressive disorder.
- At significant risk of suicide on the basis of clinical judgment.
- Pregnant, breast-feeding or planning to become pregnant during the study.
- Current history of illness with hepatic, renal, gastro enteric, respiratory, cardiovascular, endocrinological, neurologic, immunologic, hematological diseases and infectious diseases etc.
- Significantly abnormal laboratory tests and finding of electrocardiograph.
- Current use of drug abuse or alcohol dependence.
- Diagnosis of panic disorder, generalized anxiety, dementia, bipolar disorders, schizophrenia or any other psychiatric disorders.
- Patient unable to give the informed consent and follow study procedure.

Study Design and Grouping:

Total 45 number of Patients were randomly divided into two groups named as group 1(active control group) and group 2 (experimental group). Then again experimental group was subdivided into subgroups 2a and 2b. Each group and subgroup was contained 15 numbers of patients.

Treatment protocol:

Group 1 (active control group) was given fluoxetine {a standard antidepressant drug} 20 mg per orally daily two times with normal water for 42 consecutive days.

Group 2 (experimental group) was again subdivided into subgroups 2a and 2b and was given 6 herbal capsules (each capsule contained 500 mg powder two indigenous medicinal plants in equal quantity of Nordostachys jatamansi and Lavandula stoechas into three divided dosages per orally daily with normal water for 42 consecutive days in both subgroups. Additionally the Shirodhara therapy with plain ashwagandha oil was applied in subgroups 2b for first 14 consecutive days at least 30 minutes daily. The plain ashwagandha oil was prepared the mixture of Withania somnifera with the sesame oil. All the procedure was done in the department of Rasa Shastra and Bhaisajya Kalpana (pharmacy) at NIA, Jaipur.

Efficacy and Safety Assessment of Selected Drugs:

For the measure of efficacy the particular clinical symptoms was evaluated and HRDS 17, CGI-S was administered at each visit day of patients, it means at the day of baseline 14^{th}, 28^{th}, 42th and the CGI-I was administered at all post baseline visits. The adverse effects such as dry mouth, headache, nausea, somnolence, sweating, restlessness, constipation, dizziness, sexual dysfunction, anorexia and vital signs included blood pressure, pulse rate; body weight was monitored at each visit day of patient. The laboratory examinations such as hematological (TLC, DLC, ESR, Hb%), biochemical (Sr. bilirubin, ALT, AST, alkaline phosphatase, FBS, Sr. creatinine, Sr. urea, lipid profile) and Electrocardiogram were investigated at baseline and the day of 42.

Statistical Analysis:

The quantitative data was assessed by using

paired student t test when compared before and after study in a single group (intragroup) and one- way analysis of variance (ANOVA) was followed for intergroup comparison. For the assessment of qualitative data Wilcoxan t- test was done in a single group. The $P < 0.05$ was considered as statistically significant, $P>0.05$ was considered as statistically non significant.

Results and Observations:

In this study the demographic profile was showed that depression is more common in male, younger subjects, involved in desk work and those are from middle class socioeconomic status. Ayurvedic character showed that Mandya type Agni, Madhyama type Koshtha, Alpa type of Nidra, Vata-kaphaja type Sharirika prakriti, Rajas type Manasika prakriti and Avara type of Sattva was found in maximum number of patients. End of treatment on day, the clinical symptoms diminished interest or pleasure, insomnia or hypersomnia and fatigue or loss of energy was found significant improvement in both experimental subgroups when compared to baseline. The other symptoms depressed mood, body weight changes, psychomotor agitation or retardation and diminished ability to think or concentrate, or indecisiveness was highly significant ($p<0.01$) improved in group 2b but not in group 2a. According to severity of depression; the mean score of HDR, CGI-S score was in either mild or moderate level in individual subject on baseline day but after 42 days of treatment the mean score the HDRS, CGI-S or CGI-I score was found highly significant ($p<0.01$) in decreased in subgroup 2a and 2b when compared to baseline. In intergroup comparison the highest improvement; that near to normal was found that in subgroup 2b when compared to standard control group 1.

Discussion:

It may be combined effects of Nordostachys Jatamansi and Lavandula stoechas Withania somnifera. The active ingredients Jatamansone from Nordostachys Jatamansi regulate the metabolic degradation of catecholamine, serotonin and other endogenous amines in CNS through interaction with GABAergic receptor[10] and other active constituents from lavender also involves the activation of the inhibition of GAB Aergic system on the system[11]. Beside the plain Ashwagandha oil was used for Shirodhara therapy. Shirodhara has the important role on psychiatric disorders. Past study showed that Shirodhara psychoneuroimmunologic activity by balancing the levels of various neurotransmitters including serotonin thyroid releasing hormones (TSH) and catecholamine resulting in sympathetic suppression psycho immunologic changes in peripheral circulation. Moreover, the active ingredients of Withania somnifera have the possible inhibitory effects on neurotransmitter?- amino butyric acid (GABA)[12]. According Ayurvedic pharmacology, these plants having *Katu*(pungent), *Tikta*(bitter), *kasaya* (astringent) *rasa*; *Laghu*(light), *Tikshna*(sharp) and *Ruksha* (ununctuous) *Guna* (attributes); *Ushana*(hot) *Veerya* (potency); *Katu Vipaka* of selected plant. So *Katu rasa* stimulates *pachakagni* desiccants the food, removes obstruction and dilates the passages and allays *Kapha Doshas*. The *Rasa* like *Tikta* has also potency to improve the basic cellular metabolism due to their *Shodhana* properties. The all over effects of trial drug should remove *Ama Dosha* at various levels, correct the *Agni* and cleanses the *Srotasa* and also improve the functions of neurotransmitter. These plants have properties of Intellect promoting (*Maidaya*) and Resuscitative (*Sangaya Sthapana*). The side effects such as dry mouth, headache, nausea, somnolence, sweating, restlessness, constipation, dizziness, sexual dysfunction, anorexia were more frequent in group 1. Only sweating was showed in two subgroups. The vital signs Systolic blood pressure, diastolic blood pressure, pulse rate and body weight showed no significant difference in any group on final day. The Hb% was significant increase ($p<.01$) in subgroup 2b; the ALT significantly decrease in both subgroups, AST in subgroup 2b, FBS in both subgroups, Sr. cholesterol and Sr. triglyceride in subgroups 2b due to haemopoetic, hepatoprotective, hypoglycemic and hypolipidemic effects of Nordostachys Jatamansi on basis of past clinical study. On the basis of the above description, it can be concluded that the selected Herbal preparation and Shirodhara therapy have antidepressant effects and safe for use as measured by clinical symptom, HDR, CGI-S and CGI-I scale when compared with known standard antidepressant generic preparation fluoxetine. So this study suggests that it can be used in mild and moderate condition of depression and hypothesis is accepted.

Conclusion:

The study suggests that the selected herbal preparation and Shirodhara therapy have antidepressant effects and safe for use. So it can be used in mild and moderate condition of depression.

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Clinical Study

Clinical Evaluation of the Efficacy of *Laghu Varunadi Kwath* in the Management of *Mutrashmari* (Urolithiasis)

*Dr. Ajay Kumar Nagar, **Dr. Chandra Bhanu Sharma

Abstract:

This study was conducted to evaluate the efficacy of *Laghu Varunadi Kwath* in the Management of *Mutrashmari* (Urolithiasis). It was randomized controlled study on 30 numbers of patients and was divided into two groups named group A and group B. In group A tablet Cystone 2 BD per orally with normal water and in group B *Laghu Varunadi Kwath,* 80 ml BD per orally was administered for 45 days. After completion the treatment it was assessed by the use of subjective criteria like as Pain (*Vedana*), Pain increase with jerks (*Ayasat Atiruk*), Burning Micturition (*Mutradaha*), Dysuria (*Mutrakrichhra*), Increased Frequency of Micturition (*Muhu Mehate*), Bifurcated Stream of Urine (*Visheernadhara*), Interrupted Stream of Urine (*Mutradhara Sanga*) and turbid Urination (*Avilmutrata*) and objective criteria was used Hematological (Hb%), biochemical (Blood Urea, S.Creatinine, S.Uric acid, S.Calcium, S.Albumin, S.Alkaline Phosphatase, SGOT, SGPT, Bilirubin), RBC, Crystals, pus cells in routine and microscopic examination of urine. For the detection of size, site and numbers of calculus by ultrasonography of K.U.B. region. After treatment showed that the symptoms like *Vedana* (60.52%), *Ayasat Atiruk* (45.45%), *Mutradaha* (68.42%), *Mutrakricchra* (70.58%), *Sarudhira Mutrata* (66.66%), *Muhu Mehate* (58.33%), *Mutradhara Sanga* (33.33%), *Avilmutrata* (87.5%) and *Sasiktam* (85.714%) changes in group A. In group B it was showed the changes the symptoms *Vedana* (87.80%), *Ayasat Atiruk* (71.42%), *Mutradaha* (93.75%), *Mutrakricchra* (100%), *Sarudhira Mutrata* (100%), *Muhu Mehate* (93.75%), *Mutradhara Sanga* (83.33%), *Avilmutrata* (100%) and *Sasiktam* (100%) after treatment. In ultrasonogram examination it was found that the size of stone 59.09% change in group A and 88.23% changes in group B and both showed highly significant decrease. Finally it was observed that group B was more effective than group A in overall assessment.

सारांश-

प्रस्तुत शोध लघुवरुणादि क्वाथ का मूत्राश्मरी पर प्रभाव का मूल्यांकन करने के लिये किया गया है। इसमें मूत्राश्मरी के 30 रोगियों को दो वर्गों में विभाजित कर किया गया। वर्ग अ में टेब. सिस्टोन-2 टेब. प्रातः सायं सामान्य जल के साथ तथा वर्ग ब में लघुवरुणादि क्वाथ 80 मि.लि. प्रातः सायं 45 दिन तक दिया गया। शोध कार्य के पूर्ण होने के पश्चात लाक्षणिक एवं प्रयोगशालीय बिन्दुओं के आधार पर मूल्यांकन किया गया।

अश्मरी के आकार एवं संख्या का मूल्यांकन सोनोग्राफी के आधार पर किया गया। शोध कार्य के पूर्ण होने के पश्चात वर्ग अ में वेदना में 60.52 प्रतिशत, आयासात् अतिरुक् में 45.45 प्रतिशत, मूत्रदाह में 68.42 प्रतिशत, मूत्रकृच्छ्र में 70.58 प्रतिशत, सरुधिर मूत्रता में 66.66 प्रतिशत, मुहुः मेहते में 58.33 प्रतिशत, मूत्रधारा संग में 33.33 प्रतिशत, आविलमूत्रता में 87.50 प्रतिशत, ससिकतम् में 85.14 प्रतिशत लाभ देखा गया।

शोध कार्य के पूर्ण होने के पश्चात वर्ग 'ब' में वेदना में 87.80 प्रतिशत, आयासात् अतिरुक् में 71.42 प्रतिशत, मूत्रदाह में 93.75 प्रतिशत, मूत्रकृच्छ्र में 100 प्रतिशत, सरुधिर मूत्रता में 100 प्रतिशत, मुहुः मेहते में 93.75 प्रतिशत, मूत्रधारा संग में 83.33 प्रतिशत, आविलमूत्रता में 100 प्रतिशत, ससिकतम् में 100 प्रतिशत लाभ देखा गया।

वर्ग 'अ' में अश्मरी के आकार एवं संख्या में 59.09 प्रतिशत लाभ देखा गया तथा वर्ग 'ब' में अश्मरी के आकार एवं संख्या में 88.23 प्रतिशत लाभ देखा गया। अन्ततः वर्ग 'ब' का वर्ग 'अ' से अधिक लाभ देखा गया।

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Clinical Study

Clinical Evaluation of the Efficacy of *Laghu Varunadi Kwath* in the Management of *Mutrashmari* (Urolithiasis)

Dr. Ajay Kumar Nagar, Dr. Chandra Bhanu Sharma

Introduction:

Mutrashmari is known to mankind since times immemorial. From the ancient studies, it becomes evident that the urological problems remain a very important part of the medical science. Ancient Indian Literatures also described about *Mutrashmari*. *Rigveda* and *Atharvaveda* (2000 – 5000 BC) also described about the *Ashmari* and advised people not to ride on horse.

In *Samhita* period, *Sushruta* the father of surgery has explained urinary calculus under the heading of *Ashmari* in details, including etiological factors, classifications, symptomatology, pathology, complications and its management in a most scientific manner. *Ashmari description* is the specific contribution of *Acharya Sushruta* and he included it in the "Eight *Mahagada*" (Su. Su. 33/4) may be owing to its potentiality to cause complications of urinary system. *Acharya Charaka* has advised medical management and *Sushruta* advised both conservative and surgical removal of stone through perineal root cystolithotomy.

Urolithiasis is the third most common affliction of the urinary tract exceeded only by UTI and BPH. Renal calculus can occur in both the sex at any age. It typically occurs in middle life during the most productive years.

Generally stones are found in kidneys, ureters and urinary bladder. When confined to kidney, it presents the feature of renal calculus. It may pass down into the ureter to become ureteric calculus, reach the bladder to become a vesical calculus or to be held up in the urethra and become a urethral calculus.

Urolithiasis causes pain, loss of working time, medical expenses, needs for hospitalization and an infrequent cause of renal failure. The most important complication of urolithiasis is urinary obstruction resulting in back pressure, stasis of urine and subsequent damage to the urinary architecture, hydronephrosis, which is often irreversible.

Need and significance of Present Research work:

The urinary stones have peculiar tendency of recurrence despite of their surgical removal which prove that surgery only be a part of treatment, but not the complete treatment. So to avoid the surgical procedures, to avoid recurrences after surgical removal of stone and in search of an effective conservative treatment the present work has been undertaken.

Looking into the gravity of the problem it has been decided to work on *Laghu Varunadi Kwatha* which is described by *Pandit Rajeshwar Datta Shastri Vaidya* in *Ashmari Prakaran* of *Chikitsadarsha*

Aims and objectives:

The current research project entitled *"*Clinical Evaluation of the Efficacy of *Laghu Varunadi Kwath* In the Management of *Mutrashmari* (Urolithiasis*)"* was undertaken with following aims and objectives -

1). Conceptual and clinical study of *Mutrashmari* (Urolithiasis).

2). To assess the efficacy of "*Laghu Varunadi Kwath"* in the management of a series of patient of *Mutrashmari* (Urolithiasis).

3). To compare the efficacy of *Laghu Varunadi Kwath* in the management of *Mutrashmari* (Urolithiasis*)* with efficacy of another *Ayurvedic* Formulation i.e. Tab Cystone.

4). To develop easily available and cost effective drug for the management of *Mutrashmari* (Urolithiasis).

Materials and Methods:

Following materials and methods was

employed for conducting the present research project-

1) Selection of cases:-

The study was conducted on 30 clinically and pathologically diagnosed patients of *Mutrashmari* (Urolithiasis). The selection of patients will be made from the OPD/IPD of *Arogyashala* and S. S. B. Hospital, National institute of *Ayurveda*, Jaipur, Rajasthan.

Grouping:-

30 registered patients of *Mutrashmari* (Urolithiasis) was randomly divided in the following two groups-

Group A- 15 registered patients of *Mutrashmari* (Urolithiasis) was administered Tab Cystone in the dose of 2 Tabs Twice Daily with simple water for 45 Days.

Group B- 15 registered patients of *Mutrashmari* (Urolithiasis) was administered

Laghu Varunadi Kwath in the dose of 80 ml Twice Daily (prepared from 20 gm of *Yavakuta* drug) for 45 days.

2) Inclusion Criteria:

- Age between 20 years to 50 years.
- Clinically diagnosed patients of *Mutrashmari* (Urolithiasis).
- Site - Patients with Urinary Calculus anywhere in the Urinary tract i.e. in the Kidney, Ureter, Bladder or Urethra.
- Size of the Stone less than 10mm.

3) Exclusion Criteria:

- Age below 20 years and more than 50 years.
- Compromised Renal Function.
- Staghorn calculus.
- Benign Prostatic Hypertrophy.
- Urinary Stones of 10mm & more than 10mm size.
- Stones in the lower pole of kidney.
- Patients with *Mutrashmari* (Urolithiasis) with Complications.

Plan Of Work -

The study was carried out as follows –

1) Detailed Proforma:

A special proforma was prepared to maintain the records of all findings regarding the patients.

2) Investigations:

i) Urine – Routine and Microscopic

ii) Blood :

Haematology - CBC, ESR, RBS

Biochemistry - Blood Urea, S.Creatinine, S.Uric acid, S.Calcium, S.Albumin, S.Alkaline Phosphatase, SGOT, SGPT, Bilirubin.

iii) Radiological :-

Plain x-ray (K.U.B.)

iv) Sonological :-

Ultrasonography (K.U.B.)

3. Drug schedule:-

Group A- 15 registered patients of *Mutrashmari* (Urolithiasis) was administered Tab Cystone in the dose of 2 Tabs Twice Daily with simple water for 45 Days.

Group B- 15 registered patients of *Mutrashmari* (Urolithiasis) was administered. *Laghu Varunadi Kwath* in the dose of 80 ml Twice Daily (prepared from 20 gm of *Yavakuta* drug) for 45 days

4. Follow up

Three follow up at 15, 30 and 45th day of every patient was done.

Criteria For Assessment -

Most of the signs and symptoms of *Mutrashmari* described in *Ayurveda* subjective in nature, to give the results objectively and for statistical analysis multidimensional scoring system have been adopted. The symptoms score obtained before and after treatment, statistical analysis and percentage relief was taken to known the efficacy of therapy.

Score was given according to severity of symptoms.

A) Subjective Criteria (Clinical Assessment)-

Assessment of the therapy was done according to the relief observed in the signs and symptoms, with the help of scoring pattern.

Severity of Symptoms was graded on the basis of a "Symptom rating scale" developed by Dr. Chandra Bhanu Sharma.

❖	Complete absence of the signs and symptoms	:	0
❖	Mild degree of the signs and symptoms	:	1 (+)
❖	Moderate degree of the signs and symptoms	:	2 (+ +)
❖	Severe degree of the signs and symptoms	:	3 (+ + +)
❖	Extreme condition of signs and symptoms	:	4 (+ + + +)

Following sign and symptoms of *Mutrashmari* were assessed for any improvement after the course of therapy –

- Pain (*Vedana*)
- Pain increase with jerks (*Ayasat Atiruk*)
- Burning Micturition (*Mutradaha*)
- Dysuria (*Mutrakrichhra*)
- Increased Frequency of Micturition (*Muhu Mehate*)
- Bifurcated Stream of Urine (*Visheernadhara*)
- Interrupted Stream of Urine (*Mutradhara Sanga*)
- Turbid Urination (*Avilmutrata*)

The details of the scores adopted for the chief signs and symptoms in the present study were as follows –

1) Pain (*Vedana*) :

No pain	0
Occasional pain did not require treatment	1
Occasional pain but, required treatment	2
Continuous dull ache pain,required treatment	3
Severe Continuous pain, but did not show relief even after treatment	4

2) Pain increase with jerks (*Ayasat Atiruk*) :

Absent	0
Present	1

3) Burning Micturition (*Mutradaha*) :

No burning micturition	0
Occasional burning micturition	1
Occasional burning micturition, required treatment	2
Continuous burning micturition required treatment	3
Continuous severe burning micturition but no relief even after treatment	4

3) Dysuria (*Mutrakrichhra*) :

No dysuria	0
Occasional dysuria	1
Occasional dysuria which require treatment	2
Continuous dysuria which require treatment	3
Continuous severe dysuria but did not show relief even after treatment	4

4) Increased Frequency of Micturition (*Muhu Mehate*):

Absent (Frequency – up to 6 times / day & night)	0

Mild (Frequency – 7 to 9 times / day & night)	1
Moderate (Frequency –10 to 12 times / day & night)	2
Severe (Frequency – 13 to 15 times / day & night)	3
Extremely Sever (Frequency – > 15 times / day & night)	4

5) Bifurcated Stream of Urine (*Visheernadhara*) :

Absent	0
Present	1

6) Interrupted Stream of Urine (*Mutradhara Sanga*) :

Absent	0
Present	1

7) Turbid Urination (*Avilmutrata*) :

Absent	0
Present	1

B) Objective Criteria:

Based on various investigation like blood, biochemical examination, urine, USG (KUB) done before and after treatment.

The statistical analysis was done of these score before starting the treatment and after completion of 45 days course.

1) Blood:

i) Hematology - Hb%

ii) Biochemistry - Blood Urea, S.Creatinine, S.Uric acid, S.Calcium, S.Albumin, S.Alkaline Phosphatase, SGOT, SGPT, Bilirubin.

2) Urine –

i) Hematuria (*Sarudhira Mutrata*) : On the basis of microscopic urine analysis

No RBC/HPF	0
0–5 RBC/HPF	1
6–10 RBC/HPF	2
11–15 RBC/HPF	3
>16 RBC/HPF	4

ii) Passing of Urine with Gravels (*Sasiktam*)

Urinary Crystals – Absent	0
Urinary Crystals – Present	1

iii) Pus Cells: On the basis of microscopic urine analysis

3) Sonological - Ultrasonography (K.U.B.)

i) Size of calculi-

No Stone	0
Stone size up to 4 mm	1
Stone size 4.1 mm – 6 mm	2
Stone size 6.1 mm – 8 mm	3
Stone size 8.1 mm – 10 mm	4

Criteria For Total Effect Of Therapy

For the assessment of the total effect of the therapy following four categories were taken into considerations.

Cured – 76% to 100%

- Complete relief in signs and symptoms.
- Absence of any calculus in urinary tract with radiological evidence.

Markedly Improved – 51% to 75%

- Markedly relief in signs and symptoms
- Downward movement or partial disintegration of *Mutrashmari* with radiological evidence.

Improved – 26% to 50%

- Moderate relief in signs and symptoms.
- Without any change in size of stone confirmed with radiological evidence.

Unchanged – less than 25%

- Only mild relief in sign and symptoms.
- Without any change in size of stone confirmed with radiological evidence.

Observation & results

The observations and results have been made in the present work under the following headings.

1. Demographic Profile. .

i) Demography of general profile – according to observed data maximum number of patients are found in the age of 20-30 year, male, married & Graduates, Hindu in religion, labour by occupation, belongs to lower class in socio economic status, vegetarian and jangal habitat etc.

ii) Demography of clinical profile - according to observed data maximum number of patients are found of *Vata-Kaphaj Prakriti, Asthi Sara, Madhyama Samhanana, Madhyama Satva, Katu & Madhura Rasa Satmya, Sama Agni, Madhyama Kostha, Ahara Madhyama Shakti, Madhyama Vyayama Shakti,* and *Khandita Nidra* etc.

In the present study it was observed that maximum number of patients i.e. 56.66% were suffered from *Vataj Ashmari*, followed by 23.33% with *Kaphaj, 20%* with *Pittaj,* while non of the patient is found with *Shukraj Ashmari.*

Maximum number of patients i.e.80% having stone in kidneys, 20% in ureter, while non of the patient is found with urinary bladder and urethral stones. Maximum number of patients i.e. 90% having unilateral stone, while only 10% have bilateral stones.

Maximum number of patients i.e.45.71% having stone of size 4.1mm - 6mm followed by 34.28 % having stone of size 8.1mm – <10mm, 11.42% having stone of size 6.1mm –8 mm, 8.57% having stone of size up to 4mm.

Nidana Sevana -

In the present study it was observed that in the category of *Aharaj Nidana Sevana* maximum number of patients i.e. 63.33% are indulging with *Alpa Jala Sevana,* followed by 60% with *Adhyashana, 50%* with *Sheeta Snigdha Guru Madhura Ahara*, 43.33% with *Samashana,* 43.33% with *Ajirna Bhojana*, 36.33% with *Tikshna Aushadhi Sevana*, 23.33% with *Anupa Mansa*, 23.33% with *Ruksha Ahara*, 16.33% with *Matsya Sevana*, 13.33% with *Ati Madhyapana.*

While in the category of *Viharaj Nidana Sevana* maximum number of patients i.e. 46.66% are indulging with *Divaswapa,* followed by 43.33% with *Mutra Vegadharana*, 30% with *Nitya Druta Pristha Yana*, 20% with *Ati-Vyayama*, 3.33% with *Kati Skandha Atidharanat.* All the patients were indulging with *Asanshodhana.*

Clinical features –

In the present study it was observed that clinical features found are *Vedana* in 100%, *Ayasat Atiruk* in 83.33%, *Mutradaha* in 70%, *Mutrakricchra* in 56.67%, *Muhu Mehate* in 53.33%, *Avilmutrata* in 53.33%, *Sasiktam* in 43.33%, *Hrillasa* in 43.33%, *Sarudhira Mutrata* in 30%, *Mutradhara Sanga* in 30%, *Muhur Mehti Bindushah* in 26.67%, *Vami* in 23.33% , *Jwara* in 23.33%, *Vasti Toda* in 23.33%, *Vasti Daha* in 20% , *Vasti Gaurav* in 13.33%, *Ushna Sparsha* in *Vastipradesha* in 10% of total patients at baseline day. The symptoms *Visheerna Dhara* and *Vrishana Shotha* were not observed in any numbers of patients.

2. Results of Therapeutic Trial

It includes results on various parameters on 30 patients registered, 15 in each group for current clinical trial to evaluate the efficacy of *Laghu Varunadi Kwath* in the management of *Mutrashmari* (Urolithiasis)

Assessment Of Therapy

Table No. I : Showing the effect of Tab. Cystone (Group A) on Clinical features in patients of *Mutrashmari* (Urolithiasis)

Clinical Features	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Result
Vedana	2.533	1	1.533	60.526	0.743	0.191	7.990	< .0001	HS*
Ayasat Atiruk	0.733	0.4	0.333	45.455	0.488	0.126	2.646	< 0.05	S**
Muttradaha	1.266	0.4	0.866	68.421	0.990	0.255	3.389	< 0.01	HS
Muttra-kricchra	1.133	0.333	0.8	70.588	1.014	0.261	3.055	< 0.05	S
Sarudhira Mutrata	0.2	0.066	0.133	66.667	0.351	0.090	1.467	> 0.05	NS***
Muhuh Mehate	0.8	0.333	0.466	58.333	0.516	0.133	3.5	< 0.01	HS
Mutradhara Sanga	0.2	0.133	0.066	33.333	0.258	0.066	1	>0.05	NS
Avilmutrata	0.533	0.066	0.466	87.5	0.516	0.133	3.5	< 0.01	HS
Sasiktam	0.466	0.066	0.4	85.714	0.507	0.130	3.055	>0.05	NS

*HS (Highly Significant), ** S (Significant), *** NS (Not Significant)

Table No. II : Showing the effect of *Laghu Varunadi Kwath* (Group B) on Clinical features in patients of *Mutrashmari* (Urolithiasis)

Clinical Features	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Result
Vedana	2.73	0.33	2.4	87.80	0.91	0.23	10.21	< .001	HS
Ayasat Atiruk	0.93	0.26	0.66	71.42	0.48	0.12	5.291	<.001	HS
Muttradaha	2.13	0.13	2	93.75	1.06	0.27	7.245	< .001	HS
Muttra-kricchra	1.6	0	1.6	100	1.24	0.32	4.988	<.001	HS
Sarudhira Mutrata	0.53	0	0.53	100	0.74	0.19	2.779	<0.01	S
Muhuh Mehate	1.06	0.06	1	93.75	1.13	0.29	3.415	<0.01	HS
Mutradhara Sanga	0.4	0.06	0.33	83.33	0.48	0.12	2.645	<0.01	S
Avilmutrata	0.53	0	0.53	100	0.51	0.13	4	<0.01	HS
Sasiktam	0.4	0	0.4	100	0.50	0.13	2.091	<.001	HS

Table III: Showing the effect of Therapy on Laboratory Parameters in patients of *Mutrashmari* (Urolithiasis)

	Grp	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Result
Hb%	G-A	13.05	12.93	0.12	0.919	1.249	0.322	0.372	>0.05	NS
	G-B	13.91	13.76	0.146	1.054	1.215	0.313	0.467	>0.05	NS
B.Urea	G-A	29.86	27.36	2.5	8.370	5.621	1.451	1.722	>0.05	NS
	G-B	30.35	27.30	3.046	10.03	4.773	1.232	2.472	<0.05	S
S.Creatinine	G-A	0.88	0.866	0.013	1.515	0.106	0.027	0.487	> 0.05	NS
	G-B	0.886	0.873	0.013	1.503	0.241	0.062	0.213	>0.05	NS
S.Uric acid	G-A	5.013	5	0.013	0.266	0.461	0.119	0.112	>0.05	NS
	G-B	5.08	4.993	0.086	1.706	0.626	0.161	0.535	>0.50	NS
S.Calcium	G-A	9.36	9.273	0.086	0.925	0.184	0.047	1.817	>0.05	NS
	G-B	9.753	9.333	0.42	4.306	0.823	0.212	1.974	>0.05	NS
S.Albumin	G-A	4.32	4.273	0.046	1.080	0.531	0.137	0.34	>0.05	NS
	G-B	4.413	4.353	0.06	1.359	0.405	0.104	0.573	>0.05	NS

Table IV: Showing the effect of Therapy on'Size of Stone' in patients of *Mutrashmari* (Urolithiasis)

Group		Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Result
G-A		2.93	1.20	1.73	59.09	1.33	0.34	5.03	<0.001	HS
G-B		3.40	0.40	3.00	88.23	1.41	0.36	8.21	< 0.001	HS

Table No.V : Showing the significance between both groups for Clinical features in patients of *Mutrashmari* (Urolithiasis)

Sl. No	Clinical features	Group-A (Mean ±SD)	Group-B (Mean ±SD)	*t* value	*p* value	Sig.
1	*Vedana*	1.533±0.743	2.400±0.910	2.856	<0.01	HS
2	*Ayasat Atiruk*	0.333±0.488	0.666±0.488	1.871	<0.01	NS
3	*Mutradaha*	0.866±0.990	2.00±1.069	3.012	<0.01	HS
4	*Mutrakricchra*	0.800±1.014	1.600± 1.242	1.932	>0.05	NS
5	*Sarudhira Mutrata*	0.133±0.351	0.533±0.743	1.884	>0.05	NS
6	*Muhuh Mehate*	0.466±0.516	1.000±1.134	1.658	>0.05	NS
7	*Mutradhara Sanga*	0.0666±0.258	0.333±0.488	1.871	>0.05	NS
8	*Avilmutrata*	0.200±0.414	0.333±0.617	0.694	>0.05	NS
9	*Sasiktam*	0.466±0.516	0.333± 0.617	0.641	>0.05	NS

Table No. VI : Showing the significance between both groups for Laboratory parameters in patients of *Mutrashmari* (Urolithiasis)

Sl. No	Investigations	Group-A (Mean ±SD)	Group-B (Mean ±SD)	*t* value	*p* value	Sig.
1	Hb%	0.120±1.249	0.146±1.216	0.059	>0.05	NS
2	B.Urea	2.500±5.622	3.047±4.773	0.287	>0.05	NS
3	S.Creatinine	0.013±0.106	0.013±0.241	1.243	> 0.05	NS
4	S.Uric acid	0.013±0.461	0.086±0.626	0.365	>0.05	NS
5	S.Calcium	0.086±0.184	0.420± 0.823	1.529	>0.05	NS
6	S.Albumin	0.046±0.531	-0.013±0.454	0.332	>0.05	NS
7	Stone Size	1.733 ±1.335	3.000 ±1.414	2.523	<0.01	S

Probable Mode Of Action :

The formulation taken for the study, *Laghu Varunadi Kwath* is indicated in *Ashmari Prakarana* of *Chikitsadarsh* possess all the needful actions like *Kaphahara, Lekhana* and *Mutrala*. The five ingredients of the compound pacify *Kapha dosha* by virtue of their *Ushna Veerya* and also shows *Lekhana* property due to *Ushna veerya.*

The *Lekhana Karma* is again enhanced by *Yavakshara which is Ushna Veerya, Kapha-Vata Shamaka* and *Mutrala.*

Varuna is *Ushna Veerya, Kapha-Vata Shamaka* and *Ashmaribhedaka* in *Prabhava*

Pashanabheda is *Tridosha Shamaka* and *Ashmaribhedaka* in *Prabhava* as mentioned in its name. *Gokshura* is *Ashmarinashaka*, *Mutrala* and *Bastishodhaka*. *Kulattha* is *Ushna Veerya, Kapha-Vata Shamaka* and *Ashmaribhedaka* in *Prabhava.*

So over all result of the drug is *Kapha-Vata Shamaka*, *Ashmaribhedaka* and *Mutrala* which hampers the *Ashmari* formation and expels the formed *Ashmari.*

According to latest researches it is observed that Gokshura and other ingradients of *Laghu Varunadi Kwath* posses antimicrobial action specially in the condition of urinary tract infection. This also decrease the chance of nidus formation in the urinary tract and hence helps to treat *Mutrashmari* (Urolithiasis).

No toxic or side effect of the drugs were noticed in any of the patients registered for the present study.

Conclusions :

- "*Laghu Varunadi Kwath"* is safe, economical and effective remedy for the management of *Mutrashmari* (Urolithiasis).
- On comparision of the efficacy of *Laghu Varunadi Kwath* and Tab. Cystone*, Laghu Varunadi Kwath* seems to be more effective in the management of *Mutrashmari* (Urolithiasis).
- *Laghu Varunadi Kwath* posses the ideal properties of disintegration and expulsion of urinary stones and it help to reduce sign and symptoms of *Mutrashmari* (Urolithiasis).
- Therefore it can be concluded that *Laghu Varunadi Kwath* may prove to be a potent drug in the management of *Mutrashmari* (Urolithiasis).

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Clinical Study

Clinical Study To Evaluate Efficacy Of *Ashokarista*, *Ashwangandha Churna* And *Praval Pisti* In Management Of Menopausal Syndrome

*Dr. Neeta Kumari, **Dr. Diksha Khathuria, ***Prof. C.M.Jain, ****Dr.B.Pushpalatha

Abstract

According to Ayurveda, Menopausal Syndrome is a *Swabhavikvyadhi*. Ayurveda links menopause with ageing. Ageing is a 'vata' predominant stage of life.thus, the symptoms of menopause experienced by some women are similar to the symptoms seen when the vatadosha rises and upsets the normal balance of the body. Vata-type menopausal symptoms tend to include depression, anxiety, and insomnia. Menopause may also manifest itself as a rise in the other two humors also. Women with pitta-type symptoms are often angry and suffer hot flashes. Kapha type symptoms include listlessness, weight gain, and feelings of mental and physical heaviness. Rajonivritti is not described in the classics as a separate disease there is no information available regarding its Nidana, Purvarupa, Rupa, Samprapti etc. the provable causative factors for rajonivritti are KALA, SWABHAVA, VAYU, KARMA/ENVIRONMENT, DHATUKSHAYA AND ABHIGHATA etc... In Ayurveda Ashokarishta Aashwangadhachurna and pravalapishti used in the streerogadhikar, Ashwagandhachurna used as a rasayan therapy, In Ayurveda because of menopausal syndrome is a swabhawikvyadhi and ageing disorder., and pravalapishti is a rich source of calcium so this therapy is taken for Menopausal syndrome. So the following study was undertaken in 48 patients of MENOPAUSAL SYNDROME to evaluate the efficacy and safety of Ashokarishta, Ashvagandhachurna and Pravalapishti in the management of Menopausal syndrome. Results showed that Ashokarishta, Ashwagandhachurna and Pravalapishti needs sufficient time to produce the clinical effect in less duration it can't produce significant improvement in symptoms and biophysical parameters. 12 weeks duration treatment given to a series of patients of MENOPAUSAL SYNDROME showed significant improvement in chief complaints , many Ayurvedic symptoms and Biophysical parameters from the above trial it is clear that Ashokarishta, AshwagandhaChurna , and PravalPishti can be used as a safe and effective 'Therapeutic Agents' in the management of MENOPAUSAL SYNDROME.

Key Words- *Ashokarishta, Ashvagandha churna, Pravalapishti, Menopausal syndrome*

सारांश–

रजोनिवृत्ति एक स्वाभाविक व्याधि है। जो लक्षण रजोनिवृत्ति के है वो ही लक्षण बढती उम्र के भी है। वृद्धावस्था में वातदोष की प्रधानता से अवसाद, बेचैनी, अनिद्रा, पित्तदोष से क्रोध, अत्यधिक पसीना आना, कफदोष से मानसिक तनाव, शारीरिक तनाव जैसे लक्षण मिलते है। आयुर्वेद शास्त्र में इसके निदान पूर्वरूप, रूप, सम्प्राप्ति वर्णन अलग से नहीं बताया गया है। रजोनिवृत्ति के कारण निम्न प्रकार हो सकते है जैसे काल, स्वभाव, वायु, कर्म/वातावरण, धातुक्षय अभिघात आदि। आयुर्वेद में अशोकारिष्ट, अश्वगंधाचूर्ण एवं प्रवालपिष्टी का प्रयोग किया है। प्रस्तुत शाोध रजोनिवृत्ति के 48 रोगियों पर किया गया। इस शोध का लक्ष्य रजोनिवृत्ति मे अशोकारिष्ट, अश्वगंधाचूर्ण, एवं प्रवाल पिष्टी का प्रभाव एवं सुरक्षितता का मूल्यांकन करना है। उपरोक्त शोध में यह देखा गया कि अशोकारिष्ट, अश्वगंधाचूर्ण, एवं प्रवाल पिष्टी ने सीमित समय तक उत्तम लाभ दिया। जबकि दवा रोकने पर भी मरीजों में लाभ तो पाया गया पर उतना नही। 12 सप्ताह के चिकित्सा के पश्चात् रजोनिवृत्ति के रोगियों में शारीरिक व मानसिक विकारों, रक्तपरीक्षणों में भी उत्तम लाभ मिला। उपरोक्त शोध से यह प्रस्तुत किया जा सकता है कि अशोकारिष्ट, अश्वगंधाचूर्ण एवं प्रवाल पिष्टी रजोनिवृत्ति में सुरक्षित उत्तम एवं प्रभाव युक्त दवायें हैं।

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Clinical Study

Clinical Study To Evaluate Efficacy Of *Ashokarista*, *Ashwangandha Churna* And *Praval Pisti* In Management Of Menopausal Syndrome

Dr. Neeta Kumari, Dr. Diksha Khathuria, Prof. C.M.Jain, Dr.B.Pushpalatha

Introduction:

"Menopause is a transitional phase from reproductive life to the cessation of menstruation. In a few women, it is an asymptomatic or a minimally symptomatic phase that can be ignored by her and her family members, but in some women, it is a symptomatic condition, alarming to both the women and their families. Menopausal symptoms may manifest themselves 2 or 3 years before the actual menopause starts and continue for 2 to 5 years. During menopause, major physiological, gynaecological and social changes occur.[1]

In Ayurveda, this phenomenon taken in a different way and not as a serious health problem. As Sushruta mentioned that menopause deals with Jarapakvaavastha of the body.

तद्वर्षाद् द्वादशात् काले वर्तमानमसृक् पुनः।
जरा पक्वशरीराणां याति पञ्चाशतः क्षयम्॥

(Su. Sha. 3/11)

The ancient acharyas termed it as a normal physiology occurring at the age near about 50 years due to Vata predominance and Dhatukshaya.[2]

The word "menopause" literally means the "end of monthly cycles" from the Greek word pausis (cessation) and the root men- (month), because the word "menopause" was created to describe this change in human females, where the end of fertility is traditionally indicated by the permanent stopping of monthly menstruation or menses. However, menopause also exists in some other animals, many of which do not have monthly menstruation. in this case, the term means a natural end to fertility that occurs before the end of the natural lifespan.[3]

Need Of Study.

Women of menopausal age are not aware of their health issues. The Hormone Replacement Therapy (HRT) is the most commonly used modality in the modern system of Medicine for the treatment of Menopausal Syndrome.But owing to its unwanted effects,HRT has its own limitations.The above mention Ayurvedic formulation have been found to be useful in treating Menopausal Syndrome and Promoting health of women.The present study is being undertaken to scientifically study and validate the efficacy and safety of this Ayurvedic regimen. Ayurveda is full of guidelines for leading a healthy life which can help a lot in this syndrome. That?s Why this study is planned to evaluate the efficacy of some ayurvedic drugs to combat "MENOPAUSAL SYNDROME", so that Ayurveda can help millions of women ailing with this syndrome. Still Ultimate answer is awaited in the management of "MENOPAUSAL SYNDROME" inspite of all Modern researches.

Drugs Used For Present Study:

For present study Ashokarishta, Ashwagandha churna and Pravalapishti was used.Prepration of all the formulations were done by Central Council for Researh in Ayurveda and Siddha (CCRAS), Department of AYUSH, Ministry of Health & Family Welfare, Government of India.

Aims And Objectives:-

Primary Objectives: To assess the clinical efficacy of Ashokarishta, Ashvagandha Churna And Pravala Pishti in the Management of Menopausal Syndrome

Secondary Objectives: To assess the clinical safety of Ashokarishta, Ashvagandha Churna And Pravala Pishti in the patients of Menopausal Syndrome.

Material and Methods:

The Study was carried out on 51 patients recruited from the O.P.D/I.P.D of P.G. Department of

Prasuti & Striroga of N.I.A. Jaipur (Raj.) after obtaining voluntary informed consent.

Study Design-

It is interventional purpose open label study. The clinical trial was done on 48 patients. Patients was administered the drug as per schedule.

During the study all patients were advised to come in OPD after every 15 days till the end of the trial and changes were recorded in proforma. The patient's undergone trial was assessed on the basis of scoring for symptoms.

Criteria Of Selection Of Patients

a) Inclusion criteria:-

1. Females of age between 40 and 55 years
2. Amenorrhoea for ≥ 12 months
3. Kupperman menopausal index score 15
4. FSH 20 IU/L
5. Thickness of endometrium 5 mm
6. Willing and able to participate for 16 weeks

b) Exclusion criteria:-

1. Patients with evidence of malignancy
2. Surgical menopause
3. Established cases of any mental illness
4. Patients with poorly controlled Diabetes Mellitus (HbA1c 10%)
5. Patients suffering from major systemic illness necessitating long term drug treatment (Rheumatoid arthritis, Psycho-Neuro-Endocrinal disorders, etc.)
6. Patients who have a past history of Atrial Fibrillation, Coronary Artery Disease (CAD), Acute Coronary Syndrome, Myocardial Infarction, Stroke or Severe Arrhythmia in the last 6 months.
7. Symptomatic patients with clinical evidence of Heart failure.
8. Patients with poorly controlled Hypertension (> 160 / 100 mm Hg)
9. Patients on prolonged (> 6 weeks) medication with corticosteoids, antidepressants, anticholinergics, hormone replacement therapy etc. or any other drugs that may have an influence on the outcome of the study.
10. Patients with concurrent serious hepatic disorder (defined as Aspartate Amino Transferase (AST) and / or Alanine Amino Transferase (ALT), Total Bilirubin, Alkaline Phosphatase (ALP) > 2 times upper normal limit) or Renal Disorders (defined as S. Creatinine>1.2mg/dL).
11. Patients with severe Pulmonary Dysfunction (uncontrolled Bronchial Asthma and / or Chronic Obstructive Pulmonary Disease [COPD]), Inflammatory Bowel Disease, Hypothyroidism or any other condition that may jeopardize the study.
12. Alcoholics and/or drug abusers.
13. H/o hypersensitivity to any of the trial drugs or their ingredients.
14. Patients who have completed participation in any other clinical trial during the past six (06) months.
15. Any other condition which the Principal Investigator thinks may jeopardize the study.

c) Criteria for withdrawal

The participant may be withdrawn from the trial if

- She develops any serious adverse effect (necessitating hospitalization)

OR

- Non-compliance of the treatment regimen (minimum 80% compliance is essential to continue in the study).

Objective diagnostic parameters-

Haematology, Blood Sugar : Fasting , HbA1c, LFT, RFT, Lipid profile, Hormonal assay, Pap smear, Urine examination, Electrocardiography (ECG), USG Abdomen/Transvaginal.

Subjective Diagnostic parameters:-

Physical examination menopausal rating scale (MRS) Menopause Specific Quality of Life Questionnaire (MENQOL).

Study schedule:

Baseline treatment & follow ups treatment at the end of 14th, 28th, 42nd, 56th, 70th & 84th day were started after screening of the patient.

Statistical Analysis:

The obtained results werestatistically analyzed by means of various parameters like Mean; Difference of means, % relief, S.D., S.E. and by adopting Wilcoxan Matched Pairs Signed Rank Test (w) in case of nonparametric parameters & Paired t- test in case of parametric parameters, p values and significance of results was evaluated. (Graphpad In stat – Version 3.10)

Outcomes

Primary Outcome Measure

- Change in the clinical symptoms (using Menopause Rating Scale).

Secondary Outcome Measures

- Change in level of **S**erum Estradiol.
- Change in Leutinising Hormone
- Change in level of Follicular Stimulating Hormone
- Change in quality of Life by using Menopause Specific Quality of Life Questionnare (MENQOL).

Observations

The critical analysis of observed results based on AyurvedicSiddhanta& scientific thoughts are described under this title.

The observations made on 48 patients of Menopausal Syndrome showed that Maximum number of the patients belonged to 51 to 55 years age group (38%), Married (100%), Literate (87%), Housewives(86%), Above poverty line (75%), Urban habitat (73%), Hindu religion (69%), Vegetarian (62%), 88% patients were not having any kind of addiction. 56% patients were having disturbed sleep pattern. 77% patients were having regular bowel habits. 63% having normal urine output.88% patients were having the job related with moderate labour. 94% patients were not having allergy to any material while 6% patients were having allergy to some material out of these 3 patients 2 patients were having allergy to dust. 63% not have white discharge,38 % have duration of menopause in between 46-50years.31% have normal menstrual duration, 90% have Average interval, 94% have average amount of bleeding, 98% have painless,and odourless menses and 96% have absence of clots.it means most of the patients have normal past menstrual cycle 79% have use of contraceptives in which 63% have done Tubectomy. emotional stress was found in 73% patients. 31% patients were of Vata-Pittaja Prakriti. 35% patients were having Rasa/twakSaarata. Patients with PravaraSamahanana were 44%. Patients having MadhyamaSatmya were 77% and having Madhyama Satva were 69%. Madhyama Ahara Shakti was found in 87% patients and Madhyama Vyayama Shakti was found in 75% patients 73% have Samagni.

The chief complaints which were noted in most of the patients were, 65% have moderate Hot flushes, slight Paresthesia in 46%, moderate Insomnia was present in 56% and 54% have slight Nervousness. 56% also have slight Melancholia, 56% have moderate Vertigo, 54% have moderate Weakness, 54% have moderate kind of Arthralgia. 71% have slight amount of Headache,patients were have 62% moderate Palpitation, 52% have moderate Formication.

Results

Effect of "**Ashokarishta, Ashvagandha Churna And Pravala Pishti"** was assessed on Menopausal Rating Scale (MSR) Score and MENQOL Score and Hematological and biochemical investigations. The obtained results were statistically analyzed by means of various parameters like Mean; Difference of means, % relief, S.D., S.E. and by adopting Wilcoxan Matched Pairs Signed Rank Test (w) in case of nonparametric parameters & Paired t-test in case of parametric parameters, p values and significance of results was evaluated. (Graphpad In stat–Version 3.10)

- The "**Ashokarishta, Ashvagandha Churna And Pravala Pishti"** showed highly significant Result to decrease in Serum Cholestrol (6.7078%). Decrease in Triglycerides (5.9184 %). Decrease in LDL (8.4722 %). In HDL(3.2652%) and 7.4545 % Decrease in VLDL.
- The **Ashokarishta, Ashvagandha Churna And Pravala Pishti** A 12.495 % Decrease in

S.AlkalinePhosphatase , 16.99 % Decrease in SGOT. 2.9596 % Decrease in Total protein,all of the above shows highly significant results.

- The **Ashokarishta, AshvagandhaChurna And PravalaPishti**Most of the comparison between follow ups highly significant decrease in MRS Score was seen, in the comparison between 14th day and 16th week of followup MRS score results highly significantly, in MRS Score Decrease % from baseline to 16th week of followup of all Subscales are like that:-
- Somatic Subscale (36.239%), Psychological Subscale(33.52%), Urogenital Subscale(21.942%), and Over all total effect on MRS score is 31.721**%** gets Decrease up to followups .other most of successive visits also showed highly significant after treatment.
- There was highly significant decrease in MENQOL (Vasomotor symptoms decrease up to 42.885%, Psychosocial score (26.667%), Physical (31.369%), and sexual(28.764%). Score all these things that the drug **Ashokarista, Asvagandha Churna and PravalPishti**showed positive response on various parameters which indicates that it helped in reducing the symptoms of Menopausal syndrome .

Table no.1 Showing the Comparison of Somatic Sub Scale Score on all follow ups.

Comparison	Mean Diff.	% Change	S.D. ±	S.E. ±	p	Significance
0 & 14th day	0.5208	5.7339	0.8503	0.1227	P>0.05	N.S.
0 & 28th day	1.146	12.615	1.0717	0.1547	P>0.05	N.S
0 & 42nd day	1.896	20.872	1.2246	0.1768	P<0.001	H.S.
0 & 56th day	2.458	27.064	1.2021	0.1735	P<0.001	H.S.
0 & 70th day	2.625	28.899	1.3625	0.1967	P<0.001	H.S.
0 & 84th day	3.146	34.633	1.4141	0.2041	P<0.001	H.S.
0th D & 16th week	3.292	**36.239**	1.304	0.1882	P<0.001	H.S.
14th & 28th day	0.6250	7.2993	0.7889	0.1139	P>0.05	N.S.
14th & 42nd day	1.375	16.058	1.0442	0.1507	P<0.01	S.
14th & 56th day	1.938	22.628	0.9544	0.1378	P<0.001	H.S.
14th & 70th day	2.104	24.574	1.1893	0.1717	P<0.001	H.S.
14th & 84th day	2.625	30.657	1.1783	0.1701	P<0.001	H.S.
14th D & 16th week	2.771	**32.36**	1.1155	0.161	P<0.001	H.S.
28th & 42nd day	0.7500	9.4488	0.8629	0.1246	P>0.05	N.S
28th & 56th day	1.313	16.535	0.7761	0.112	P<0.01	S.
28th & 70th day	1.479	18.635	1.0104	0.1458	P<0.001	H.S.
28th & 84th day	2.000	25.197	0.9676	0.1397	P<0.001	H.S.
28th D &16th week	2.146	**27.034**	1.1297	0.1631	P<0.001	H.S.

42nd&56th day	0.5625	7.8261	0.6493	0.0937	P>0.05	N.S.
42nd&70th day	0.7292	10.145	0.9394	0.1356	P>0.05	N.S.
42nd&84th day	1.250	17.391	1.0211	0.1474	P<0.01	S.
42nd D&16th week	1.396	**19.42**	1.0466	0.1511	P<0.001	H.S.
56th&70th day	0.1667	2.5157	0.8337	0.1203	P>0.05	N.S.
56th&84th day	0.6875	10.377	0.0831	0.1159	P>0.05	N.S.
56thD&16th week	0.8333	**12.579**	0.8588	0.124	P>0.05	N.S.
70th&84th day	0.5208	8.0645	0.5831	0.0842	P>0.05	N.S.
70thD&16th week	0.6667	**10.323**	0.907	0.1309	P>0.05	N.S.
84th D&16th week	0.1458	**2.4561**	0.7987	0.1153	P>0.05	N.S.

Table no.2 Showing the Comparison of Psychological Subscale score on all follow ups.

Comparison	Mean Diff.	% Change	S.D. ±	S.E. ±	p	Significance
0 & 14th day	0.6042	8.1006	1.046	0.1511	p>0.05	N.S
0 & 28th day	0.9375	12.57	1.21	0.1746	p>0.05	N.S
0 & 42nd day	1.375	18.437	1.2312	0.1777	P<0.001	H.S.
0 & 56th day	1.729	23.184	1.2332	0.178	P<0.001	H.S.
0 & 70th day	2.021	27.095	1.4065	0.203	P<0.001	H.S.
0 & 8 4th day	2.417	32.402	1.4267	0.2059	P<0.001	H.S.
0th D & 16th week	2.500	**33.52**	1.6631	0.2401	P<0.001	H.S.
14th & 28th day	0.3333	4.8632	0.907	0.1309	p>0.05	N.S
14th & 42nd day	0.7708	11.246	1.1344	0.1637	P<0.01	S
14th & 56th day	1.125	16.413	0.9812	0.1416	P<0.001	H.S.
14th & 70th day	1.417	20.669	1.182	0.1706	P<0.001	H.S.
14th & 84th day	1.813	26.444	1.1967	0.1727	P<0.001	H.S.
14th D & 16th week	1.896	**27.66**	1.3875	0.2003	P<0.001	H.S.
28th & 42nd day	0.4375	6.7093	0.7118	0.1027	p>0.05	N.S
28th & 56th day	0.7917	12.141	0.7133	0.103	P<0.01	S
28th & 70th day	1.083	16.613	0.8711	0.1257	P<0.001	H.S
28th & 84th day	1.479	22.684	0.9223	0.1331	P<0.001	H.S.
28th D & 16th week	1.563	**23.962**	1.3031	0.1881	P<0.001	H.S.
42nd & 56th day	0.3542	5.8219	0.6355	0.9917	p>0.05	N.S.

42nd&70th day	0.6458	10.616	0.9338	0.1348	p>0.05	N.S.
42nd&84th day	1.042	17.123	0.9666	0.1395	P<0.01	S
42nd D&16th week	1.125	**18.493**	1.3468	0.1944	P<0.001	H.S.
56th&70th day	0.2917	5.0909	0.8241	0.1189	p>0.05	N.S.
56th&84th day	0.6875	12	0.8031	0.1159	p>0.05	N.S
56thD&16th week	0.7708	13.455	1.2071	0.1742	p>0.05	N.S
70th&84th day	0.3958	7.2797	0.6438	0.0929	p>0.05	N.S
70thD&16th week	0.4792	8.8123	1.667	0.1684	p>0.05	N.S
84th D&16th week	0.08333	**1.6529**	1.028	0.1484	p>0.05	N.S

Table no.3 Showing the Comparison of Urogenital Score on all follow ups.

Comparison	Mean Diff.	% Change	S.D. ±	S.E. ±	p	Significance
0 & 14th day	0.04167	0.7194	0.6829	0.0986	p>0.05	N.S.
0 & 28th day	0.2917	5.036	0.8241	0.1189	p>0.05	N.S.
0 & 42nd day	0.6458	11.151	1.0208	0.1473	p>0.05	N.S.
0 & 56th day	0.7500	12.95	1.1013	0.159	P>0.05	N.S
0 & 70th day	0.7917	13.669	1.1478	0.1657	P<0.05	S
0 & 84th day	1.188	**20.504**	1.2318	0.1778	P<0.001	**H.S.**
0th D & 16th week	1.271	**21.942**	1.2839	0.1853	P<0.001	**H.S.**
14th &28th day	0.2500	4.3478	0.5649	0.0815	p>0.05	N.S.
14th &42nd day	0.6042	10.507	0.7068	0.102	P>0.05	N.S.
14th &56th day	0.7083	12.319	0.8495	0.1226	P<0.05	S.
14th &70th day	0.7500	13.043	0.8873	0.1281	P<0.01	S
14th &84th day	1.146	**19.928**	1.0104	0.1458	P<0.001	**H.S.**
14th D&16th week	1.229	**21.377**	1.0962	0.1582	P<0.001	**H.S.**
28th &42nd day	0.3542	6.4394	0.5645	0.0815	p>0.05	N.S.
28th &56th day	0.4583	8.3333	0.7707	0.1112	p>0.05	N.S.
28th &70th day	0.5000	9.0909	0.9453	0.1364	p>0.05	N.S.
28th &84th day	0.8958	**16.288**	0.881	0.1272	P<0.001	**H.S.**
28th D&16th week	0.9792	**17.803**	0.9998	0.1443	P<0.001	**H.S.**
42nd&56th day	0.1042	2.0243	0.627	0.0905	p>0.05	N.S.
42nd&70th day	0.1458	2.834	0.8749	0.1263	p>0.05	N.S.

42nd&84th day	0.5417	10.526	0.7978	0.1152	p>0.05	N.S.
42nd D&16th week	0.6250	12.146	0.9368	0.1352	p>0.05	N.S.
56th&70th day	0.4167	0.8264	0.5819	0.084	p>0.05	N.S.
56th&84th day	0.4375	8.6777	0.7693	0.111	p>0.05	N.S.
56thD&16th week	0.5208	10.331	0.8989	0.1297	p>0.05	N.S.
70th&84th day	0.3958	7.9167	0.7068	0.102	p>0.05	N.S.
70thD&16th week	0.4792	9.5833	0.9451	0.1364	p>0.05	N.S.
84th D&16th week	0.08333	1.81	0.5774	0.0833	p>0.05	N.S.

Table no.4 Showing the Comparison of Total MRS Score of all follow ups.

Comparison	Mean Diff.	% Change	S.D. ±	S.E. ±	p	Significance
0 & 14th day	1.313	5.8605	1.8353	0.2649	p>0.05	N.S.
0 & 28th day	2.438	10.884	2.2113	0.3192	p>0.05	N.S.
0 & 42nd day	3.958	17.674	2.3516	0.3394	p<0.001	H.S.
0 & 56th day	4.979	22.233	2.4363	0.3517	p<0.001	H.S.
0 & 70th day	5.479	24.465	2.7981	0.4039	p<0.001	H.S.
0 & 84th day	6.854	30.605	2.8879	0.4168	p<0.001	H.S.
0th D & 16th week	7.104	**31.721**	2.9768	0.4297	p<0.001	H.S.
14th &28th day	1.125	5.336	1.6194	0.2337	p>0.05	N.S.
14th &42nd day	2.646	12.549	1.9405	0.2801	p<0.01	S.
14th &56th day	3.667	17.391	1.9056	0.275	p<0.001	H.S.
14th &70th day	4.167	19.763	2.2629	0.3266	p<0.001	H.S.
14th &84th day	5.542	26.285	2.3607	0.3407	p<0.001	H.S.
14th D&16th week	5.792	**27.47**	2.5177	0.3634	p<0.001	H.S.
28th &42nd day	1.521	7.62	1.2202	0.1761	p>0.05	N.S.
28th &56th day	2.542	12.735	1.458	0.2105	p<0.01	S.
28th &70th day	3.042	15.24	1.9674	0.284	p<0.001	H.S.
28th &84th day	4.417	22.129	1.7605	0.2541	p<0.001	H.S.
28th D&16th week	4.667	**23.382**	2.2816	0.3293	p<0.001	H.S.
42nd&56th day	1.021	5.5367	1.1576	0.1671	p>0.05	N.S.
42nd&70th day	1.521	8.2486	1.9677	0.284	p>0.05	N.S.
42nd&84th day	2.896	15.706	1.8012	0.26	p<0.001	H.S.

42nd D&16th week	3.146	**17.062**	2.2312	0.322	p<0.001	H.S.
56th&70th day	0.5000	2.8708	1.6631	0.2401	p>0.05	N.S.
56th&84th day	1.875	10.766	1.6062	0.2318	p>0.05	N.S.
56thD&16th week	2.125	**12.201**	2.059	0.2972	P<0.05	S.
70th&84th day	1.375	8.1281	1.1416	0.1648	P<0.05	N.S.
70thD&16th week	1.625	9.6059	2.11	0.3046	P>0.05	N.S.
84th D&16th week	0.2500	1.6086	1.7197	0.2482	p>0.05	N.S.

Table No.5 Showing the Comparison of MENQOL- vasomotor Score on all follow ups.

Comparison	Mean Diff.	% Change	S.D. ±	S.E. ±	p	Significance
othday & 84th day	3.188	29.825	2.3216	0.3351	P<0.001	H.S.
othday & 16th week	4.583	42.885	1.9111	0.2759	P<0.001	H.S.

Table No.6 Showing the Comparison of MENQOL - Psycho-Social Score on all follow ups.

Comparison	Mean Diff.	% Change	S.D. ±	S.E. ±	p	Significance
othday & 84th day	3.979	22.339	2.5052	0.3616	P<0.001	H.S.
othday & 16th week	4.750	26.667	3.3612	0.4852	P<0.001	H.S.

Table No.7 Showing the Comparison of MENQOL -physical Score on all follow ups.

Comparison	Mean Diff.	% Change	S.D. ±	S.E. ±	p	Significance
othday & 84th day	10.458	24.452	5.3988	0.7793	P<0.001	H.S.
othday & 16th week	13.417	31.369	6.6263	0.9564	P<0.001	H.S.

Table No.8 Showing the Comparison of MENQOL-sexual Score on all follow ups.

Comparison	Mean Diff.	% Change	S.D. ±	S.E. ±	p	Significance
othday & 84th day	2.146	23.146	1.3836	0.1997	P<0.001	H.S
othday & 16th week	2.667	28.764	2.0456	0.2953	P<0.001	H.S

Effect Of "Ashokarista,Asvagandha Churna,And Praval Pishti" On Haematological & Biochemical Investigations

1	Hemoglobin %	11.19	11.129	0.0604	0.5399	0.9211	0.1329	0.4544	p>0.05	N.S.
2	TLC	7987.5	8006.3	-18.75	-0.235	2507.7	361.96	0.05180	p>0.05	N.S.
3	Lynphocytes	35.979	38.229	-2.250	-6.254	8.517	1.229	1.830	p>0.05	N.S.
4	Monocytes	2.604	2.667	-0.06250	-2.4	1.435	0.2072	0.3017	p>0.05	N.S.
5	Neutrophils	58.604	56.104	2.500	4.2659	9.381	1.354	1.846	p>0.05	N.S.
6	Eosinophils	2.7708	3.5208	-0.75	-27.07	6.1765	0.8915	-0.8413	p>0.05	N.S.
7	Blood Urea	31.623	29.379	2.244	7.0953	9.159	1.322	1.697	p>0.05	N.S.
8	B.Sugar Fasting	87.735	82.681	5.054	5.7607	17.664	2.550	1.982	p>0.05	N.S.
9	S.Createnine	0.7063	0.7292	-0.02292	-3.245	0.1938	0.02797	0.8194	0.4167	N.S.
10	S.Calcium	9.6496	9.5833	.0663	0.6866	0.6733	0.0972	0.6817	0.4988	N.S.
11	S.Uric acid	4.994	5.065	-0.071	-1.418	0.8361	0.1207	-0.587	0.5601	N.S.
12	Total lipid Profile									
A	S. Cholesterol	185.45	173.01	12.440	6.7078	23.958	3.458	3.597	0.0008,	**H.S.**
B	S. TGL	147.07	138.36	8.7042	5.9184	22.734	3.2814	2.653	.0109	**S.**
C	S. LDL	98.868	90.492	8.3763	8.4722	24.382	3.5793	2.380	0.0214	**S.**
D	S. HDL	57.104	55.24	1.8646	3.2652	2.8865	0.4166	4.4753	P<0.0001	**H.S.**
E	S.VLDL	29.803	27.58	2.2217	7.4545	4.8421'	0.6989	3.1788	P<0.0001	**H.S.**
13	Conjugate Bilirubin	0.1708	0.1688	0.0021	1.2195	0.08627	0.01245	0.1673	0.8678	N.S.
14	Unconjugate Bilirubin	0.4229	0.4167	0.0063	1.4778	0.1227	0.01772	0.3528	0.7258	N.S.
15	S.Alkaline phosphatase	184.30	161.27	23.029	12.495	41.053	5.925	3.886	0.0003	**H.S.**
16	SGOT	31.729	26.335	5.394	16.99	13.055	1.884	2.862	0.0063	H.S.
17	SGPT	27.517	26.296	1.221	4.4367	9.936	1.434	0.8513	0.3989	N.S.
18	S.FSH	81.092	76.871	4.221	5.2053	30.309	4.375	0.9649	p>.05	N.S.
19	S.LH	71.824	78.313	-6.488	-9.033	49.987	7.215	0.8993	0.3731	N.S.
20	S.Estradiol	27.319	25.829	1.490	5.454	16.405	2.368	0.6292	0.5322	N.S.
21	Total protien	6.335	6.148	0.1875	2.9596	0.5726	0.08265	2.268	0.0279	S.
22	Albumin	4.246	4.135	0.1104	2.6006	0.4723	0.06817	1.620	0.1120	N.S.
23	Globulin	2.079	1.992	0.08750	4.2084	0.4738	0.06839	1.279	0.2070	N.S.

Discussion:

The inter follow up results which are drawn with ANOVA for Total MRS Score shows most of the results are highly significant. It is clear from the results that the results between baseline and 14th day show not significant result. it may be because of short time of interval to taken medicine. but after that at 28th,42nd,56th,84th,day it shows highly significant results. and also highest change in % of MRS total is between Baseline(0th Day) and 16th week that is last day of treatment without taken therapy is seen that is **31.721**% and which is statistically highly significant. So it proves that over all effect of therapy on MRS Score is Highly Significant and long lasting.

- Results show that there is 29.825% % decrease in Vasomotor Symptom Score of MENQOL between baseline and 84th day that is last day of treatment which is statistically highly significant.
- Results show that there is 22.339% decrease in Psychosocial Score of MENQOL between baseline and 84th day that is last day of treatment which is statistically highly significant.
- There is also 26.667 % decrease in Psychosocial Score of MENQOL between baseline and 16th week that is last day of trial which is statistically insignificant.
- Results shows 24.452% decrease in Physical Score of MENQOL between baseline and 84th day that is last day of treatment which is statistically highly significant.
- There is also 31.369 % decrease in Physical Score of MENQOL baseline and 16th week that is last day of trial which is also statistically highly significant.
- The results shows that there is 23.146% decrease in Sexual Score of MENQOL between baseline and 84th day that is last day of treatment which is statistically highly significant.
- There is also 28.764% decrease in Total score between baseline and 16th week that is last day of trial which is also statistically highly significant.

Ayurveda considers Aging as the most important cause for Menopause and Menopausal Syndrome. According to the contents in Formulation different ingredients of “Ashokarista Asvagandha Churna and PravalPishti” have properties like Antioxidant, Immunomodulating and Immunopotentiating, Antistress, Hepatoprotective, Tyrosinase inhibiting, Anti-inflammatory, Antimicrobial, Anti-allergic, Adaptogenic, Analgesic, Cardiotonic and Antihyperglycaemic which together act against the process of aging and help in combating aging associated problems including Menopausal Syndrome.[4]

The Antistress, Neuroprotective, Immunomodulatory, Antioxidant, Nootropic activities shown by the drug might be responsible for its action on psychological disorders.

Hypolipidemic and Antiartherosclerotic activities shown by many ingredients like Haritaki, Aamalaki, Vibhitaki and Aswagandha will help in lowering various seum lipids. The drug contains phytosterols which are plant sterols. ß- sitosterol which is found in Aswagandha has structure similar to Cholesterol by the presence of an extra- ethyl group. It is anti-cancer and anti-artherosclerotic and reduces blood cholesterol levels by directly inhibiting the absorption of cholesterol. It also prevents the oxidation of LDL thereby reducing the risk of Artherosclerosis.

Praval Pishti is an excellent source of Calcium for the body. It has ability to increase osteoblastic activities and bone mass density. It can be useful preventive therapy for prevention of Postmenopausal Osteoporosis, if used for long time.

Hence our trial drug "Ashokarista Asvagandha Churna and Praval Pishti" due to its various pharmacological effects subsides various somato-psychological and other symptoms of Menopausal Syndrome.

Conclusion

Only few scattered references are available in classics regarding Menopause/Rajonivritti stage of a woman's life though any symptoms related to it or Menopause as a diseased condition is not described in the classics at all.

Factors like swabhava, Jarapakvasharira due to vata, dhatukshaya due to aging, dominance of specific doshas at the stage of Menopause, vata predominance & abhighata (if) are probably

responsible for Menopause/Rajonivritti.

Menopause/Rajonivritti can be considered as swabhavabala pravrittavyadhi & can also be further divided into akaklaja & kalaja Rajonivritti

Dosavaishamya, dhatukshaya, karma of woman i.e. mithyaahara-vihara, asatmyendriya-rthasamyoga, pragyaparadha, various nidana of Jararoga and dhatukshaya and some other predisposing factors seem responsible for various symptomatological association of Menopause i.e. Menopausal Syndrome

Nidanaparivarjana, Rasayana, Dosha-shamakachikitsa, Treatment for dhatukshaya[5] (i.e. Rasayana), treatment of manasaroga is the proposed line of treatment for Menopausal Syndrome.

Menopausal Syndrome is kalajaswa-bhavabalapravrittavyadhi, so it is yapya in nature and should be treated with Rasayana.

"Ashokarishta, Ashvagandha Churna And Pravala Pishti" showed a very significant decrease in S.Cholestrol after treatment. The S.Cholestrol is decreased from 185.45 mg/dl to 173.01mg/dl which is statistically highly significant. It indicate that Ashokarista, Asvagandha And PravalPishti have highly significant result on S.Cholestrol, S.Triglycerides and LDL, etc .it is clear that this formulation can be used safely in Obese patients and also in Lipid Disorder.

Results prove that "Ashokarishta, Ashvagandha Churna And Pravala Pishti" proved to be an effective & dependable remedy in the management of Menopausal Syndrome.

"Ashokarishta, Ashvagandha Churna And Pravala Pishti" safe for Liver disorders. Because this therapy is highly effective on Conjugated Bilirubin, SGOT, S. Alkaline Phosphatase.

Patients taken the "Ashokarishta, Ashvagandha Churna And Pravala Pishti" very well with no complaints of any side effects/ toxic effects.

Effect of therapy on MRS Score & MENQOL Score are highly significant proved it efficacy and no hazards on Subjectve and Objectve parameters show its safety.

Total WBC count also found to be increased after trial it confirm the immunomodulatory activity of therapy.

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Clinical Study

Clinical Evaluation On The Effect Of *Gandharyadi Nasya* And *Dhatryadi Kwath* In The Management Of *Ardhavabhedak* W.S.R. To Migraine

*Dr. Divya Prakash Swarnkar, **Dr.Gulab Chand Pamnani

Abstract

Ayurveda has given prime importance to Shirah, considering it as one of the three principal vital organs of the body where the Prana i.e. life resides. Charaka explains that all the sense organs and the channels carrying the sensory and vital impulses from the Shirah are like the rays from the Sun.

Now a days, due to changes in lifestyle daily routine of the common man is greatly disturbed which may lead to various disorders, one of which is Ardhavabhedaka-Migraine. Headache has troubled mankind from dawn of civilization and migraine is one of the common causes of recurrent headaches. Ardhavabhedaka can be scientifically correlated with Migraine due to its cardinal feature "half sided headache" and paroxysmal nature. If the condition gets aggravated it ultimately leads to impairment of eye and ear function as explained by Charaka and Vagbhatta.

The present study shows highly significant reduction in the frequency & duration of Shirahshoola and other symptoms such as Nausea, Vomiting, Photophobia and Eye ache with application of *GandharyadiNasya&DhatryadiKwath orally.*

Key words: Ardhavabhedaka, Migraine, Shirahshoola, GandharyadiNasya&DhatryadiKwath.

सारांशः-

आयुर्वेद में शिर को विशेष महत्व दिया गया हैं क्योकि यह तीन प्रमुख मर्म स्थानों मे से एक हैं, जहा पर प्राण स्थित रहते हैं। चरक के अनुसार जिस प्रकार सूर्य में किरणे बँधी रहती हैं उसी प्रकार शिर में ज्ञानेन्द्रियाँ और इन्द्रिय तथा प्राणवह स्त्रोत बँधे रहते हैं।

आजकल रहन-सहन मे परिवर्तन के कारण मनुष्य की दैनिक दिनचर्या बहुत अस्त-व्यस्त हो गई है जिसके कारण वह बहुत सी व्याधियों से ग्रस्त हो जा रहा है, उन्ही मे से एक व्याधि अर्धावभेदक (माईग्रेन) भी हैं। शिरःशूल ने मानव जाति को सभ्यता के प्रारम्भ से ही कष्ट दिया है एवं माईग्रेन बार-बार होने वाले शिरःशूलों में सबसे प्रधान है। आधुनिक शास्त्र में माईग्रेन का अर्धावभेदक से समन्वय स्थापित कर सकते है क्योंकि इसका भी प्रमुख लक्षण एक पक्षीय शिरःशूल एवं आवेगी स्वभाव हैं। आचार्य चरक एवं वाग्भट के अनुसार यदि यह स्थिति गम्भीर हो जाये तो यह कर्ण एवं अक्षि के कार्य में भी अक्षमता पैदा कर सकती है।

प्रस्तुत शोध कार्य में इस व्याधि के प्रमुख लक्षण जैसे-शिरःशूल, ह्लास, छर्दि, प्रकाशासह्यता एवं नेत्रशूल मे गांधर्यादिनस्य के प्रयोग एवं धात्र्यादि क्वाथ के आभ्यान्तर प्रयोग द्वारा सर्वाधिक सार्थकता प्राप्त हुई है।

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Clinical Study

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Dr. Divya Prakash Swarnkar, Dr. Gulab Chand Pamnani

Introduction

Ayurveda, the science of life, is a tradition we have inherited. It is an outcome of continuous experimentation and experience of our ancient sages. Ayurveda is an eternel science which deals with every aspect of life. Being an extension of Atharvaveda, it is considered as a mixture of science, art and philosophy.

Ayurveda, as a holistic science, recommends various regimens which help human being to achieve healthy living, while modern scientific medicine concentrates to a large extent on curative aspect of the disease. Ayurveda is not only a treatise related to treatment of diseases but it has closed concern about healthy man too, which is very clear from its aim of maintaining the health of a person, and treating their diseases. As quoted :-

प्रयोजनं चास्य स्वस्थस्य स्वास्थ्यरक्षणमातुरस्य विकार प्रद्दामनं च ॥ (च.सू.30/26)[1]

Ayurveda has given prime importance to Shirah, considering it as one of the three principal vital organs of the body where the Prana i.e. life resides. Charaka explains that all the sense organs and the channels carrying the sensory and vital impulses from the Shirah are like the rays from the Sun. (Cha. Si. 9/4)

To maintain the wellbeing and manage the rogas of Shirah and its Avyavas, out of the eight branches of Astanga Ayurveda, one branch "Shalakya Tantra" has been gifted to mankind.

Acharya Sushruta has classified Ayurveda in to eight subdivisions.

शल्यं, शालाक्यं, कायचिकित्सा, भूतविद्या, कौमारभृत्यं, अगदतन्त्रं, रसायनतन्त्रं वाजीकरणमिति ॥(सु.सू. 1/7)[2]

These eight branches of *Ayurveda* deals with all the diseases of various parts of the human body. Amongst them "*Shalakya Tantra*" also named as *Urdhwanga Chikitsa* deals with the diseases of Shirah and Indriyas with its management.

A most common complaint regarding Shiroroga is Shirahshoola i.e. Headache. Headache is an almost universal human experience.A headache or cephalalgia is pain in the region of the head or neck. It can be a symptom of a number of different conditions of the head and neck. In Ayurveda, headache has been considered as a unique entity, which has been described by various Acharyas. Sushruta, Vangasena[3] and Sharangadhara[4] have described 11 types of Shiroroga and Vagbhatta[5] has described 19 types of shiroroga. The variants are Vataja, Pittaja, Kaphaja, Sannipataja, Raktaja, Krimija, Kshayaja, Suryavarta, Anantvata, Ardhavabhedaka and Shankhaka. The last four Shirorogas are classified under Vishista Sannipataja Shiroroga.Among these Ardhavabheda is found to be the most common clinical condition seen in general practice. The disease Ardhavabhedaka is characterized by paroxysmal and unilateral headache, which may be severe in nature. Based on clinical studies it has been found that Ardhavabhedaka can be correlated to migraine, which is the most common cause of vascular headache.

"Migraine is a familial disorder characterized by recurrent attacks of headache widely variable in intensity, frequency and duration. Attacks are commonly unilateral and are usually associated with anorexia, nausea and vomiting" - World Federation of Neurology[6,7]

Epidemiological studies have documented its high prevalence and high socio-economic and personal impacts. It is now ranked by the World Health Organization as number 19thamong all diseases causing world-wide disability.(International Headache Society)[8]

A medicine administered through the nose, enters into the Mastishka and expels out the vitiated Doshas. Hence applying this view, Gandharyadi Nasya[9] was employed by Nasal route to evaluate the efficacy in this particular disease comparing it with Dhatryadi Kwath[10]which is given by oral route.

Aims And Objectives

The present research trial has been under taken with the following main objectives-

1) Conceptual and clinical studies on *Ardhavabhedaka* w.s.r. to migraine & its management with time tested Ayurvedic Principles (*Aahara and Vihara*).

2) To evaluate the efficacy of Gandharyadi Nasya and Dhatryadi Kwath in the management of Ardhavabhedaka (Migraine).

3) Comparison of abovementioned trial drugs on various scientific and statistical parameters.

Materials And Methods

Plan of Study:

Patients attending the O.P.D. and I.P.D. of P.G. department of Shalakya Tantra and OPD of S.S. Bombaywala Hospital, a unit of NIA, Jaipur Rajasthan with signs and symptoms of Ardhavabhedaka (Migraine), having age between 16 years to 60 years were selected for the present study. Patients of different age groups having features described in Ardhavabhedaka (Migraine) were selected and randomly divided into 3 groups.

1. Group A- 10 Patients were treated with Gandharyadi Nasya.
2. Group B- 10 Patients were treated with Dhatryadi Kwath orally twice daily for a period of two months.
3. Group C- 10 Patients were treated with Gandharyadi Nasya as Marsh Nasya and Dhatryadi Kwath orally twice daily for a period of one month.

The patients were selected randomly irrespective of, sex, religion, education and occupation etc.

Drug & Dose Schedule:

- Gandharyadi Nasya. 3 courses of Nasya with an interval of 4 days. Each course having 7 days administration of drug.
- Dhatryadi Kwath 50 ml two times a day.
- Durationof Trial**:** 1 month.

Demographic profile-

- It was found that maximum number of patients were in the age group of 21 – 30yrs (42.42%), Females (75.75%), Hindu (84.84%), Graduate (30.30%), Married (69.69%), House wife (57.57%), Middle class (66.36%), Urban habitat (90.90%), Vegetarian (84.84%).
- Majority of the patients had disturbed sleep (51.51%), Vatakapha prakriti (45.45%), Rajas prakriti (69.69%), Madhyama - Sara (84.84%), Samhanana (78.78%), Satmya (75.75%), Satva (75.75%), Pramana (84.84%), Vyayama shakti (69.69%), Abhyavaharana Shakti (69.69%), followed by Avara Jarana shakti (51.51%).
- The chief complaints reported from the patients were Shirahshoola (100%), Nausea (78.78%), Vomiting (63.63%), Vertigo (27.27%) and Aura (30.30%), Photophobia 60.60%, Eye ache 69.69%.
- Maximum patients were having unilateral headache (63.63%), Throbbing and Pulsatile type of headache (84.84% each). Severe intensity of headache was seen in (63.63%) with chronicity of 2 years and above 5 years (33.33% and 21.21% respectively). The duration 7-12 hours/day was seen maximum (39.39%) followed by 1-6 hours/ day &above 24 hours/day was seen in 24.24% each with episode once in 10 days in 45.45%.
- The maximum nidanas (etiological factors) observed in patients were Vishamashana (60.60%), Anashana (75.75%), Ratrijagarana (78.78%), Adhika Ayasa (66.66%), Dhupa Sevana (72.72%) and Chinta & Krodha (75.75% each).

Table No. I Criteria of Assessment

Sign & Symptoms	Scoring 0	1	2	3	4
Severity of Headache	No Headache	Mild which doesn't interrupt patient's regular activities interrupt	Moderate headache which patient's activities & diverting his/her concentration.	Severe headache in which patient is unable to perform his/her regular work.	Severe headache due to which patient prefers to be in bed/dark room
Frequency of Headache	Nil	Once in 30 days	Once in 15 days	Once in 10 days	Once in 3 days
Duration of Headache	Nil	1-6 hours/day	7-12 hours/day	13-24 hours/day	More than 24 hours
Nausea & Vomiting	No nausea/ vomiting	Only nausea	Only vomiting	Nausea and vomiting	Severe Nausea and vomiting relieved only with medication
Vertigo	No vertigo	Feeling of giddiness	Vertigo relieved by bed rest	Vertigo relived by medication	———
Aura	Nil	Lasts for 5 minutes	Lasts for 15 minutes	Lasts for 30 minutes	Lasts for 60 minutes
Photophobia	No Photophobia	Photophobia on exposure to sun light/ bright light	Photophobia on exposure to indoor light	Severe photophobia in which patient unable to open the eye	———
Eye ache	No eye pain	Mild eye pain	Moderate eye pain	Severe eye pain	———

Table No. II. Status of 33 patients of *Ardhavabhedaka* (Migraine)

Patient	Group A	Group B	Group C	Total
Registered	12	10	11	33
LAMA	2	0	1	3
Complete	10	10	10	30

Table No: III. Effect of Gandharyadi Nasya on various symptoms of Ardhavabhedaka (Migraine) in 10 patients

Symptoms	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Shirahshool	3.20	1.10	2.10	65.63%	0.57	0.18	11.70	<0.001	HS
Frequency	3.00	1.20	1.80	60.00%	0.42	0.13	13.50	<0.001	HS
Duration	2.40	0.90	1.50	62.50%	0.71	0.22	6.71	<0.001	HS
Nausea & Vomiting	2.10	0.60	1.50	71.43%	0.85	0.27	5.58	<0.001	HS
Vertigo	0.50	0.30	0.20	40.00%	0.42	0.13	1.50	>0.10	NS
Aura	0.50	0.20	0.30	60.00%	0.48	0.15	1.96	>0.05	NS
Photophobia	1.00	0.30	0.70	70.00%	0.48	0.15	4.58	<0.01	S
Eye ache	1.40	0.50	0.90	64.29%	0.57	0.18	5.01	<0.001	HS

Table No: IV. Effect of Dhatryadi Kwath on various symptoms of Ardhavabhedaka (Migraine) in 10 patients

Symptoms	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Shirahshool	2.50	1.00	1.50	60.00%	0.71	0.22	6.71	<0.001	HS
Frequency	2.50	1.00	1.50	60.00%	0.71	0.22	6.71	<0.001	HS
Duration	2.20	1.00	1.20	54.55%	0.63	0.20	6.00	<0.001	HS
Nausea & Vomiting	2.00	0.60	1.40	70.00%	0.84	0.27	5.25	<0.001	HS
Vertigo	0.20	0.10	0.10	50.00%	0.32	0.10	1.00	>0.10	NS
Aura	0.70	0.30	0.40	57.14%	0.70	0.22	1.81	>0.10	NS
Photophobia	1.00	0.40	0.60	60.00%	0.52	0.16	3.67	<0.01	S
Eye ache	1.60	0.60	1.00	62.50%	0.82	0.26	3.87	<0.01	S

Table No: V. Effect of Gandharyadi Nasya & Dhatryadi Kwath on various symptoms of Ardhavabhedaka (Migraine) in 10 patients

Symptoms	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Shirahshool	3.00	0.80	2.20	73.33%	0.63	0.20	11.00	<0.001	HS
Frequency	2.80	1.00	1.80	64.29%	0.42	0.13	13.50	<0.001	HS
Duration	2.70	0.90	1.80	66.67%	0.92	0.29	6.19	<0.001	HS
Nausea & Vomiting	1.90	0.40	1.50	78.95%	0.97	0.31	4.88	<0.001	HS
Vertigo	0.60	0.20	0.40	66.67%	0.52	0.16	2.45	<0.05	S
Aura	0.70	0.20	0.50	71.43%	0.85	0.27	1.86	>0.05	NS
Photophobia	1.00	0.30	0.70	70.00%	0.48	0.15	4.58	<0.01	S
Eye ache	1.60	0.50	1.10	68.75%	0.88	0.28	3.97	<0.01	S

Table No: VI . Effect of therapy on Shirahshoola in each group

Groups	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group-A	3.20	1.10	2.10	65.63%	0.57	0.18	11.70	<0.001	HS
Group-B	2.50	1.00	1.50	60.00%	0.71	0.22	6.71	<0.001	HS
Group-C	3.00	0.80	2.20	73.33%	0.63	0.20	11.00	<0.001	HS

Kruskal-Wallis Test (Nonparametric Anova) — Calculation detail

Comparison	Mean Rank		
	Difference	P value	Remarks
Between Group A & Group B	6.300	P>0.05	NS
Between Group A & Group C	-1.200	P>0.05	NS
Between Group B & Group C	-7.500	P>0.05	NS

Table No: VII . Effect of therapy on Frequency of Shirahshoola in each group

Groups	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group-A	3.00	1.20	1.80	60.00%	0.42	0.13	13.50	<0.001	HS
Group-B	2.50	1.00	1.50	60.00%	0.71	0.22	6.71	<0.001	HS
Group-C	2.80	1.00	1.80	64.29%	0.42	0.13	13.50	<0.001	HS

Kruskal-Wallis Test (Nonparametric Anova) — Calculation detail

Comparison	Mean Rank		
	Difference	P value	Remarks
Between Group A & Group B	4.800	P>0.05	NS
Between Group A & Group C	0.000	P>0.05	NS
Between Group B & Group C	-4.800	P>0.05	NS

Table No: VIII. Effect of therapy on Duration of Shirahshoola in each group

Groups	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group-A	2.40	0.90	1.50	62.50%	0.71	0.22	9.00	<0.001	HS
Group-B	2.20	1.00	1.20	54.55%	0.63	0.20	6.00	<0.001	HS
Group-C	2.70	0.90	1.80	66.67%	0.92	0.29	6.19	<0.001	HS

Kruskal-Wallis Test (Nonparametric Anova) — Calculation detail

Comparison	Mean Rank		
	Difference	P value	Remarks
Between Group A & Group B	2.400	P>0.05	NS
Between Group A & Group C	-1.500	P>0.05	NS
Between Group B & Group C	-3.900	P>0.05	NS

Table No: IX. Effect of therapy in Nausea & Vomiting in each group

Groups	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group-A	2.10	0.60	1.50	71.43%	0.85	0.27	5.58	<0.001	HS
Group-B	2.00	0.60	1.40	70.00%	0.84	0.27	5.25	<0.001	HS
Group-C	1.90	0.40	1.50	78.95%	0.97	0.31	4.88	<0.001	HS

[Kruskal-Wallis Test (Nonparametric Anova)] — Calculation detail

Comparison	Mean Rank		
	Difference	P value	Remarks
Between Group A & Group B	0.3500	P>0.05	NS
Between Group A & Group C	-0.5000	P>0.05	NS
Between Group B & Group C	-0.8500	P>0.05	NS

Table No: X. Effect of therapy on Vertigo in each group

Groups	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group-A	0.50	0.30	0.20	40.00%	0.42	0.13	1.50	>0.10	NS
Group-B	0.20	0.10	0.10	50.00%	0.32	0.10	1.00	>0.10	NS
Group-C	0.60	0.20	0.40	66.67%	0.52	0.16	2.45	<0.05	S

[Kruskal-Wallis Test (Nonparametric Anova)] — Calculation detail

Comparison	Mean Rank		
	Difference	P value	Remarks
Between Group A & Group B	1.500	P>0.05	NS
Between Group A & Group C	-3.000	P>0.05	NS
Between Group B & Group C	-4.500	P>0.05	NS

Table No: XI. Effect of therapy on Aura in each group

Groups	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group-A	0.50	0.20	0.30	60.00%	0.48	0.15	1.96	>0.05	NS
Group-B	0.70	0.30	0.40	57.14%	0.70	0.22	1.81	>0.10	NS
Group-C	0.70	0.20	0.50	71.43%	0.85	0.27	1.86	>0.05	NS

[Kruskal-Wallis Test (Nonparametric Anova)] — Calculation detail

Comparison	Mean Rank		
	Difference	P value	Remarks
Between Group A & Group B	0.4500	P>0.05	NS
Between Group A & Group C	-0.9000	P>0.05	NS
Between Group B & Group C	-0.4500	P>0.05	NS

Table No: XII. Effect of therapy on Photophobia in each group

Groups	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group-A	1.00	0.30	0.70	70.00%	0.48	0.15	4.58	<0.01	S
Group-B	1.00	0.40	0.60	60.00%	0.52	0.16	3.67	<0.01	S
Group-C	1.00	0.30	0.70	70.00%	0.48	0.15	4.58	<0.01	S

[Kruskal-Wallis Test (Nonparametric Anova)] — Calculation detail

Comparison	Mean Rank		
	Difference	P value	Remarks
Between Group A & Group B	1.500	P>0.05	NS
Between Group A & Group C	0.000	P>0.05	NS
Between Group B & Group C	-1.500	P>0.05	NS

Table No: XIII. - Effect of therapy on Eye ache in each group

Groups	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group-A	1.40	0.50	0.90	64.29%	0.57	0.18	5.01	<0.001	HS
Group-B	1.60	0.60	1.00	62.50%	0.82	0.26	3.87	<0.01	S
Group-C	1.60	0.50	1.10	68.75%	0.88	0.28	3.97	<0.01	S

- **Group C** :- While assessing the clinical improvement in the patients of Group C treated with Gandharyadi Nasya and Dhatryadi Kwath the symptom Shirahshoola was relieved by 73.33% and in Duration the improvement was noted by 66.67% while 64.29% relief in Frequency, which is highly significant improvement statistically (P<0.001) and 78.95% relief was found in Nausea & vomiting which is highly significant statistically (p<0.001), the study also shows 66.67% relief in Vertigo which is statically significant (P<0.05), where as 71.43% relief was shown in the Aura, but statistically this result is not significant (P>0.05). In the symptoms of Photophobia improvement was 70.00% & in Eye ache 68.75% relief was noted, which is significant statistically (P<0.01).

The above observation lead us to state that both drugs used in the trial also acts in synergistic form and enhances the effect of therapy as evidenced by the results seen in group C.

Conclusion :

- The present study essentially aims to evaluate the effectiveness of two ayurvedic formulations viz. Gandharyadi Nasya & Dhatryadi Kwath in the management of Ardhavabhedaka w.s.r. to Migraine. 30 patients were randomly selected in this trial and divided into 3 groups. Both the formulations were found to be effective in reducing signs and symptoms and found to be highly significantstatistically on various criteria's of assessments.
- Combination of both these Ayurvedic formulation was found to be more effective in all 3 trial groups.
- The efficacy of Gandharyadi Nasya (Group A) in Migraineadministrated for 1 month, showed 63.83% improvement with p-value <0.01, which is statistically significant. Dhatryadi Kwath (Group B) administrated for 1 month showed 61.90% improvement in symptomswith p-value is <0.001, which is statistically highly significant, and in Gandharyadi Nasya&Dhatryadi Kwath (Group C), 70.71% improvement with p-value <0.001 which is statistically highly significant.
- No adverse and toxic effects were observed during the trial and after the treatment.

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Clinical Study

A Clinical Study Of *Vatgajendrsingh Ras* W.S.R. To *Amavata*

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Abstract

In present time, due to modern life style, hectic schedule, stress, and many such reasons, incidence of diseases are increasing, one of them is *Amavata*. It is considered as an autoimmune disease giving rise to deformities of joints in extreme conditions. The concept of autoimmunity is well-explained under the concept of *Ama*. Vatagajendrasingh rasa is vatashamak, purgative and strength enhancer, appetizer rasa yoga. due to presence of least amount of aconite and other cardiac nutrients its efficacy on heart diseases is also found .in short we can say all stages of Amavata results of this remedy very encouraging. The results indicated that classical Ayurvedic treatment with vatagajendrasingh rasa was effective in patients who completed treatment.

Key Words - Autoimmune, vatgajendrasingh ras, rheumatoid factor, sleshak kapha, Sandhishool.

सारांश–

आमवात सन्धियों की चिरकालिक शोथयुक्त व्याधि है। जो कि शरीर के सभी अङ्गों, ऊतकों, हृदय तथा फुफ्फुसों को आक्रान्त कर लेती है। विशेषरुप से यह सन्धियों में कलशोथ, मृदुअस्थियों के विघटन तथा जाड्यता उत्पन्न कर उन्हें आक्रमित करती हैं। यह एक व्याधिक्षमत्वजन्य रोग माना जाता हैं। आधुनिक चिकित्साविज्ञान में इसका सिर्फ लाक्षणिक उपचार है। अत: आमवात रोग को अनुसधांन हेतु चयनित किया गया है ताकि वातगजेन्द्ररस से इस व्याधि का समूल नाश हो सके तथा रोगी को स्वास्थ्यलाभ हो पाये। वातगजेन्द्रसिंह रस वातशामक, विरेचक तथा व्याधिक्षमत्व बढाने के कारण रोगी का बल तथा पाचनशक्ति को बढाता है । इसमें वत्सनाभ उपस्थित होने के कारण यह हृदय को बल प्रदान करता है ।

इस अनुसंधान कार्य में आमवात का उपचार औषध वातगजेन्द्रसिंह रस द्वारा करने का प्रयास किया गया है। जैसा कि प्राचीन आचार्यों द्वारा कहा गया है कि सिंहरुपी वातगजेन्द्ररस वनसदृश्य शरीर में भ्रमण कर रहे हाथी रुपी आमवात को तुरन्त ही नष्ट कर देता हैं। अनुसन्धान में वातगजेन्द्रसिंह रस आमवात के उपचार में प्रभावी पाया गया।

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Clinical Study

A Clinical Study Of *Vatgajendrsingh Ras* W.S.R. To *Amavata*

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It is considered as an autoimmune disease giving rise to deformities of joints in extreme conditions.It comes as attacks of shifting or pricking type of pain, stiffness particularly in morning hours, person may feel comfortable for many days and has sudden active phase of the disease. As per modern medicine, there is symptomatic cure available for this condition.

Rheumatoid Arthritis is a chronic systemic inflammatory disorder that may affect many tissues and organs, skin, blood vessels, heart, lungs and muscles, but principally attacks the joints, producing a non-suppurative proliferative synovitis that often progresses to destruction of the articular cartilage and ankylosis of the joint.

Introduction -

In present time, due to modern life style, hectic schedule, stress, and many such reasons, incidence of diseases are increasing, one of them is *Amavata*. The concept of autoimmunity is well-explained under the concept of *Ama*, an intermediate product generated due to the deranged metabolism of digestive fire triggering a chronic inflammatory process in the body. Rheumatoid arthritis is a chronic inflammatory disease. In the whole world, rheumatic disease is the most common cause of physical impairment in society. The lives of more than one million people are physically impaired by rheumatic disorders and one fifth of these are severely disabled. The prevalence rate of this disease is about 3% with a male to female ratio of 1:3.[1] It occurs throughout the world in all climates and ethnic groups.

Vatagajendrasingh rasa is vatashamak, purgative and strength enhancer, appetizer rasa yoga. due to presence of least amount of aconite and other cardiac nutrients its efficacy on heart diseases is also found .in short we can say all stages of Amavata results of this remedy very encouraging.[2]

In the present research attempt was make to find out results of vatagajendra rasa on Amavata disease as quoted by our ancient acharyas that this lion like rasayoga destroy elephant like amavata which walking in body same as jungle.

Aims And Objectives-

To evaluate the efficacy of vatgajendra rasa in the managemet of amavata

Materials & Methods-

The raw materials of vatagajendra rasa are procured from madan mohan malviya ayurvedic college pharmacy and medicine also prepared in this place by auther.

The ingradients of vatagajendra singh rasa are shown in table (1). These are following-

Abhrak bhasma, laha bhasma, sh. Parad, sh. Gandhak, Tamra bhasma, Naga bhasma, sh. Tankana, sh. Vatsanabh, saindhav lavana, lavang, sh. hingu, jayaphala each ingradient is in same part and dalchini, chhoti ela, tejpatra, chhoti harad, baheda, amalaki, shweta jeerak are ½ part.[3,4,5,6]

All ingradients are triturated with kumara swarasa after shade drying whole mixture was properly powered and filled in capsule.

Table no. 1 shown the ingradients of vatagajendra singh rasa-

S.N	Name of ingradient	Latin name/inglish name	amount
1.	Abhrak bhasma	Mica	40gm
2.	Loha bhasma	Ferrum	40gm
3.	Sh. Parad	Hydrargirum	40gm
4.	Sh. Gandhak	Sulphur	40gm
5.	Tamra bhasma	cuprum	40gm
6.	Naga bhasma	Plumbum	40gm
7.	Sh. Tankana	Borex	40gm
8.	sh. Vatsanabh	Aconitum ferox	40gm
9.	saindhav lavana	Sodii chloridum	40gm
10.	lavang	Syzygium aromaticum	40gm
11.	sh. hingu	Ferula northex	40gm
12.	jayaphala	Myristica fragrans	40gm
13.	Dalchini	Cinnemomum zylenicum	20gm
14.	Chhoti ilaichi	Ellatiria cardemomum	20gm
15.	Tejpatra	Cinnemomum tamal	20gm
16.	Haritaki	Terminalia	20gm
17.	Bibhitaki	Terminalia velerica	20gm
18.	Amalaki	Umblica officinalis	20gm
19.	jeerak	Cuminum cyminum	20gm
20.	Kumara swarasa	Aloe vera	q.s.

Total 30 patients fulfilled criteria for diagnosis of the disease *Amavata* (Rheumatoid Arthritis) were selected from the O.P.D. and I.P.D. of from madan mohan malviya ayurvedic college, Udaipur

Inclusion Criteria

Patients having classical features of *Amavata* like *Angamarda, Aruchi, Trishna, Hrillasa, Gaurava, Jwara, Shula, Shotha* etc. were selected for the present clinical research work. Detailed research proforma was prepared incorporating all the clinical features seen in the disease *Amavata* (Rheumatoid Arthritis).

Rheumatoid factor positive and negative both cases were included.

Exclusion Criteria

- Chronicity of more than 10 years
- Having severe crippling deformity
- Having cardiac disease, pulmonary tuberculosis and pregnant women
- Age less than 18 years and more than 90 years

Plan Of Study

Vatgajendra rasa was given along with shunthi sadhit milk for the selected patients of amavata

Dose: - 250 mg (1 capsule bd) after meal.

Total Duration: 30 days.

Laboratory investigations

- Rheumatoid Factor (Quantitative) test
- Erythrocyte Sedimentation Rate by Westergren method
- X-ray of the affected joint
- Routine urine, blood examination

Criteria For Assessment

The results of the therapy were assessed after completion of treatment on the basis of-

- Improvement in the signs and symptoms based on both Ayurvedic Parameters. These are following –

Daurbalya, Hridya-gaurav, Gatra stabdhta, Angmarda, Aruchi,Trishna, Alasya, Gaurav, Jvar, Angshunyta, Shira-shula,Agnimandhya, Prasek, Asyavarasya, Daha, Bahumutrata, Nidra viparyaya, Bhrama, Moorchha, Vibandh, Anaha, Amatisar, Sandhi shula, Sandhi shoth, Sandhi jadya, Sandhi daha, Sandhi raga, Sandhi stemitya, Sandhi kandu, Sandhi gaurav. [7]

The changes observed in the signs and symptoms were assessed by adopting Suitable scoring pattern. The detail assessment of clinical signs and symptoms are discussed below:

+++ - symptom observed very severe

++ - symptom observed moderate

+ - symptom observed mild

- - if symptom observed totally absent

§ Investigations conducted before and after treatment.

§ The result obtained from individual patient was categorized according to the Following grades:-

Marked improvement: 75% relief

Moderate improvement: 50% upto 75% relief

Mild improvement: 25% upto 50% relief

No improvement: 25% relief

Statistical Analysis:

The information gathered on the basis of above observations was Subjected to statistical analysis in terms of mean (x), standard deviation (S.D.) and Standard error (S.E.). unpaired't' test was carried out at $P<0.05$, $P<0.01$ and $P<0.001$ levels. The obtained results were interpreted as:

Insignificant $P > 0.05$

Significant $P < 0.05$

Highly Significant $P < 0.001$

Observation And Results

The results of therapy were assessed on the basis of clinical features of the disease *Amavata*, which are mentioned in Ayurvedic classics. Total 30 patients were studied in this study.

Table no.2 shown the Demographic and background characteristics -

characteristic	No. of patients	percentage
Male	10	33.33
Female	20	66.66
Age		
21-30 yrs.	4	13.33
31-40	3	10.00
41-50	6	20.00
51-60	8	26.66
61-70	7	23.33
71-80	2	6.66

Disease duration (yrs.)		
0-1	13	43.33%
1-2	8	26.66%
2-3	2	6.66%
3-4	3	10%
4-5	2	6.66%
>5	2	6.66%

In this study minimum age of the patients was 21 years and maximum Was 80 years. Majority of the patients i.e. 26.66% were reported in the age group of 51 to 60 years followed by 30% in the age group of 61 to 70 years. The study recorded a predominance of female patients to the extent of 66.66% of the total while the male constituted 33.33%.

Table no. 3 showing Nidana wise distribution of 30 patients of Amavata-[8]

Nidan	No. of patients	Total % of patients
Viruddha ahar	26	86.66
Viruddha cheshta	21	70.00
Mandagni	24	80.00
Nishcheshta	18	60.00
Snigdhbhojnoprant vyayam	23	76.66
Guruann seven	26	86.66
Snigdhati seven	19	63.33
madhuratiseven	20	66.66
Manas vishyak	23	76.66

Nidana: - Regarding the Aharaja Nidana, history of consumption of viruddha Ahara was given by 86.66% patients

Among Viharaja Nidana, patients who gave the history of viruddha cheshta were 66.66%. mandagni was found in 80% of patients and Nischalata 26.66% snigdhbhojnopranta vyayam and manas vishyak nidan was reported by 76% of patients.

Guruann intake was doing by 86.66% of patients. 66.66% of patients were reporting madhuratiseven and snigdhadiseven was found in 63.33% of patients.

Table no.4 showing RA FACTOR

S.N.	RA Factor	Total no. of patients	Total % of patients
1	positive	8	26.66
2	negative	22	73.33

Rheumatoid Factor: - According to presence of Rheumatoid factor wise distribution 73.33% of the were seronegative, while the remaining 26.66 % of the patients were seropositive for Rheumatoid factor.

Table no.5 showing Joint involvement wise distribution of 30 patients of Amavata

S.n.	Joint involve	No. of patients	% of patients
1.	Ansa sandhi	16	53.33
2.	Kurper	13	43.33
3.	Manibandh	10	33.33
4.	Kartal	11	36.66
5.	greeva	3	10.00
6.	Kati	17	56.22
7.	Vankshan	2	6.66
8.	Janu	25	83.33
9.	Gulfa	15	50.00
10.	Padtala	11	40.00

Involvement of Joints: - According to the involvement of the joint maximum number of the patients were having the involvement of janu sandhi (83.33%) followed by 56.66% katisandhi, 53.33 of ansa sandhi, 50.00% of gulfa sandhi, 43.33% of kurpur sandhi.

Table No. 6 Distribution Of 30 Patients Of Amavata According To Symptoms

Sr.no.	Symptoms	No. of patients	Percentage of patients
1.	Daurbalya	20	66.66
2.	Hridya gaurav	9	30
3	Gatra stabdhta	14	46.66
4	Angmarda	27	90.00
5	Aruchi	28	93.33
6	Trishna	11	36.66
7	Alasya	9	30.00
8	Gaurav	19	63.33
9	Jvar	10	33.33
10	Angshunyta	12	40.00
11	Shira-shula	22	73.33
12	Agnimandhya	30	100.00
13	Prasek	7	23.33
14	Asyavarasya	10	33.33
15	Daha	11	36.33

16	Bahumutrata	14	46.33
17	Nidra viparyaya	30	100.00
18	Bhrama	07	23.33
19	Moorchha	04	13.33
20	Vibandh	20	66.66
21	Anaha	06	20.00
22	Amatisar	06	20.00
23	Sandhi shula	30	100.00
24	Sandhi shoth	30	100.00
25	Sandhi jadya	27	90.00
26	Sandhi daha	10	33.33
27	Sandhi raga	09	30.00
28	Sandhi stemitya	07	23.33
29	Sandhi kandu	06	20.00
30	Sandhi gaurav	10	33.33

Maximum number of patients were suffering from nidra viparyaya and agnimandhya,sandhishula and sandhishoth. followed by 93.00% aruchi, angmarda was found in 90% of patients and shirashula was found in 73.00% of patients. 66.66% patients were suffering from daurbalya and vibandh. gaurav lakshana was found in 63.00% patients.

Overall effect of therapy

Cardinal Features	**Mean B.T.**	**Mean A.T.**	***x***	**% relief**	**S.D ±**	**S.E ±**	**'t' Value**	**p Value**	**Remarks**
Daurbalya	1.03	0.57	0.47	45.16	0.57136	0.104313	4.48	<0.001	H.S.
Hridya gaurav	0.47	0.33	0.13	28.57	0.345746	0.063124	2.11	>0.05	I.S
Gatra stabdhta	0.8	0.37	0.43	54.16	0.62606	0.1143	3.792	<0.001	H.S.
Angmarda	1.33	0.67	0.67	50	0.47946	0.08754	7.62	<0.001	H.S.
Aruchi	1.37	0.43	0.93	68.29	0.52083	0.09509	9.82	<0.001	H.S.
Trishna	0.40	0.13	0.27	66.66	0.45486	0.08305	3.21	<0.001	H.S.
Alasya	0.47	0.17	0.3	64.28	0.53498	0.09767	3.071	<0.001	H.S.
Gaurav	0.93	0.40	0.53	57.14	0.50742	0.09264	5.76	<0.001	H.S.
Jvar	0.3	00	0.3	100	0.46609	0.0851	3.53	<0.001	H.S.
Angshunyta	0.57	0.27	0.3	52.94	0.53498	0.09767	3.07	<0.001	H.S.
Shira-shula	1.23	0.53	0.7	56.75	0.70221	0.12821	5.46	<0.001	H.S.

Agnimandhya	1.57	0.47	1.1	70.21	0.40258	0.0735	14.97	<0.001	H.S.
Prasek	0.22	00	0.2	100	0.40684	0.07428	2.69	>0.01	S
Asyavarasya	0.43	0.13	0.3	69.23	0.466092	.085096	3.53	<0.001	H.S.
Daha	0.4	0.67	0.33	83.33	0.479463	0.087538	3.81	<0.001	H.S.
Bahumutrata	0.63	0.20	0.43	68.42	0.568321	0.103761	4.18	<0.001	H.S.
Nidra viparyaya	2.37	1.13	1.23	52.11	0.504007	0.092019	13.40	<0.001	H.S.
Bhrama	0.23	0.33	0.2	85.71	0.406838	0.074278	2.69	>0.01	I.S
Moorchha	0.133	0.033	0.1	75	0.309934	0.056586	1.76	>0.05	I.S
Vibandh	0.9	0.13	0.77	85.18	0.626062	0.114303	6.71	<0.001	H.S.
Anaha	0.23	0.033	0.2	85.71	0.406836	0.074278	2.69	>0.01	I.S.
Amatisar	0.2	00	0.2	100	0.406838	0.074278	2.69	>0.01	I.S
Sandhi shula	2.57	1.3	1.27	49.35	0.449776	0.082118	15.42	<0.001	H.S.
Sandhi shoth	1.8	0.67	1.1333	62.96	0.571346	0.104313	10.86	<0.001	H.S.
Sandhi jadya	1.77	0.8	0.93	52.83	0.52083	0.09509	9.82	<0.001	H.S.
Sandhi daha	0.37	0.07	0.3	81.81	0.466092	0.085096	3.53	<0.001	H.S.
Sandhi raga	0.37	0.07	0.3	81.81	0.46609	0.0851	3.53	<0.001	H.S.
Sandhi stemitya	0.23	0.07	017	71.42	0.37905	0.0692	2.41	<0.05	S
Sandhi kandu	0.2	0.03	0.17	83.33	0.37905	0.0692	2.41	<0.05	S
Sandhi gaurav	0.43	0.17	0.27	61.53	0.44978	0.08212	3.25	<0.001	H.S.

The above table shows that in Daurbalya, Gatrastabhta, Angamarda, Vibandha, Sandhi shool, Shandhi shotha, Sandhi jadya, Sandhi raga, Sandhi gaurav, Agnimadya, Jvara and Alasya etc. the result was found to be highly significant. In Sandhi kandu, Sandhi staimitya and Praseka the result was found to be significant, whereas in Amatisaar, Murcha, Anaha, Brahama and Hridya gaurav the result was insignificant.

Overall effect of therapy

Sr.no.	improvement	No. of patients relieved	% of patients relieved
1.	Marked improvement	7	23.33
2.	Moderate improvement	17	56.66
3.	Mild improvement	5	16.66
4.	No improvement	1	3.33

Discussion & Summary

At the end of the study, following conclusion can be drawn on the basis of Observations made, Results achieved and thorough Discussion in the present context and it can be said that the Amavata is Chronic & painful disease in nature (Arthritis rank second as the most prevalent chronic ailment after heart disease) and has insidious onset. Its recurrences are very high. As the word suggests, in Amavata, the pivoting entities in disease process are Ama and Vitiated Vata. Pathogenesis of Amavata is initiated by Ama, occupying various Sleshma sthanas, mainly joint. Ayurvedic view of pathogenesis of the disease Àmavata, it is evident that there is ample emphasis on the gastrointestinal disturbances as primary cause of Àmavata. Hypofunction of digestive mechanism as a whole is the basis which leads to incomplete processing of food. Here some component of this incompletely process food that is Àma is absorbed in system and it is capable to produce vascular and tissue changes. The involvement of the Sleshaka Kapha in the pathogenesis of Àmavata has got great resemblance with that of connective tissue disorder. It is also noted that allergic manifestation with the absorption of the denatured protein from the intestinal tract is known example of this possibility. Thus, we can say that concept of gastro-intestinal disorder specially enteropathy and altered immune mechanism are together involved in the manifestation of the disease.[10]

This study shows that vatgajendra rasa is very effective in loss of appetite, pyrexia, diarrhea, swelling, constipation etc. gastrointestinal troubles and pain in joints also.

Women constituted approximately two-thirds (66.66 %) of the sample. They were affected more severely by the disease and improved more slowly than men. Pre treatment factors such as disease duration and showed interesting patterns of improvement. While overall improvement was greatest in those who were in the early stages of RA, even those who were in the more chronic stages (showed significant improvement. Records indicate that in general, reduction in swelling was noted within a month, and 80% reported relief from pain in the first month after starting treatment. There was no evidence of liver, renal, or other toxicity due to *Ayurvedic* treatment.

This therapy provided highly significant ($p<0.001$) result in Daurbalya, Gatrastabhta, Angamarda, Vibandha, Sandhi shool, Shandhi shotha, Sandhi jadya, Sandhi raga, Sandhi gaurav, Agnimadya, Jvara and Alasya etc. In Sandhi kandu, Sandhi staimitya and Praseka the result was found to be significant, whereas in Amatisaar, Murcha, Anaha, Brahama and Hridya gaurav the result was insignificant.

In overall therapy Marked improvement was found in 23.33% of patients and 56.66% patients got moderate effect. Mild improvement was shown in 16.66% of patients and 3.33% of patients were shown no improvement. In some patients results were found very negligible because of avoidance diet restrictions.Pretreatment factors such as disease duration and functional class showed interesting patterns of improvement. While overall improvement was greatest in those who were in the early stages of RA, even those who were in the more advanced stages (functional classes III and IV) showed significant improvement. According to Symptoms relief was found 61.25%. After 40 yrs age peoples are mostly suffer from this disease rather than other age group. Knee joints are commonly affected in amavata in comparison to other joints. This study shows that It is not essential that E.S.R is raised and R.A. factor has been found positive in amavata patients as shown in laboratory investigations. Therefore without sign and symptoms criteria for the diagnosed of this disease is nothing.

Results:

There was statistically significant improvement in all parameters from admission to discharge.

Conclusions:

The results indicated that classical Ayurvedic treatment with vatagajendrasingh rasa was effective in patients who completed treatment. Even patients with severe functional limitations showed significant improvement.

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Clinical Study

A Clinical study on the effect of *Laghu Triphala Ghritam* and *Guduchyadya Anjanam* in the management of *Timir* w.s.r. to Myopia

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Abstract

Eye is the most important of five sense organs in human body. A pair of sparkling eyes is the most beautiful and attractive features in a person. But now-a-days, due to change in life style incurable and chronic eye diseases are going to be increased. Timir is found as one of the commonest form of eye disease presentations. Prathama Patalagata Timira is one of the stages of Timira which is a Drishtigata roga and can be correlated to Simple Myopia with the characteristic symptom of blurred vision for distant object. It is the common cause of ocular morbidity that may ultimately lead to blindness as explained by Vagbhatacharya.

The present study shows highly significant reduction in the incidence & frequency of the symptoms i.e. Avyakta darshan, Headache, Eye strain and Watering of eye with application of *Laghu Triphala Ghritam, orally and Guduchyadya Anjana* as local application.

Key words: Timir, Myopia, Laghu Triphala Ghrita, Guduchayadya Anjana Dristigata, Avyakta darshan.

सारांश–

मनुष्य शरीर में 5 ज्ञानेन्द्रियों में नेत्र सबसे महत्वपूर्ण इन्द्रिय है। सुन्दर आँखे किसी भी व्यक्ति के व्यक्तित्व का मुख्य हिस्सा होते है। परन्तु आज कल जनजीवन/दिनचर्या अस्त व्यस्त होने के कारण नेत्र रोगों की संख्या में दिन प्रतिदिन वृद्धि हो रही है।

नेत्र रोगों में भी तिमिर नामक व्याधि प्रमुखता से देखनें को मिलती है। प्रथम पटलगत तिमिर, तिमिर कि विभिन्न अवस्थाओं में से एक अवस्था है जो कि दृष्टिगत रोगों के अन्तर्गत आती है एवं इसको Simple Myopia से संबधित किया जा सकता है, क्योंकि इसका भी प्रमुख लक्षण दुरस्थ अव्यक्त दर्शन है। आचार्य वाग्भट के अनुसार यह दृष्टि की अक्षमता का प्रमुख कारण है जो अन्ततः अन्धता करता है।

प्रस्तुत शोध कार्य में इस व्याधि के प्रमुख लक्षण जैसे अव्यक्त दर्शन, शिरःशूल, नेत्रतनाव एवं नेत्रस्राव मे लघुत्रिफला घृत के मौखिक प्रयोग एवं गुडूच्याद्य अञ्जन के स्थानिक प्रयोग द्वारा सर्वाधिक सार्थकता प्राप्त हुई है।

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Introduction

Ayurveda is an ancient system of medicine existing since ancient times which aims at not only cure of the disease but also prevent the humanity from all categories of miseries physical, mental, intellectual, and spiritual. Among the eight branches of *Ayurvedic* medical science, *Urdhwanga Chikitsa or Shalakya Chikitsa* constitutes one of the important branch among the Ashtanga Ayurveda. Shalakya Tantra deals with the diseases occurring above the clavicle. So it mainly deals with the sense organs, the diseases affecting them and their management.[1]

Among all the sense organs eyes are considered to be very important because vision is crucial for social and intellectual development of a person. Hence protection of this organ of vision is not only a necessity but also a responsibility of every individual.[2] It is rightly quoted by Vagbhatacharya, stating the importance of eyes as –

Drishtishcha Nashta Vividha Jagachcha Tamomayam Jayat Ekaroopam ||22||

(A.H.Su.24)

The disease Timira is explained under this group of diseases where in the cardinal feature is dimness of vision. Sushruta considers *Timira, Kacha* and *Linganasha* as the progressive clinical stages of the disease *Linganasha*[3] where as Vagbhata enumerates six types of *Timira* as separate entities.[4] Its symptomatology can be correlated with the errors of refraction and early stage of cataract. Out of the six *Netra Patala* described by *Sushruta*, the last four *Patalas* are related with eyeball antero-posteriorly, in which *Timira Roga* is manifested.[5] As per *Vagbhatta*, this occurs in the first two layers of the eyeball.

The anatomical considerations of the Patalas and symptoms of the vitiated Doshas situated in these Patalas reveal that the word 'Timira' which is described as an ocular pathology in Ayurveda, is nothing but errors of refraction, specially the 'Prathama Patalagata Timira' can be taken merely as the Simple Myopia, a subtype of Myopia.

Myopia or short sightedness is a type of refractive error in which parallel rays of light coming from infinity are focused in front of the retina, when accommodation is at rest. Myopia is a type of refractive error which causes defective vision in childhood and accounts for a great deal of miseries. It is the clinical entity, which starts with visual defect and may ultimately lead to loss of vision. Myopia or short sightedness manifests as distant blur.[6,7]

Triphala is accepted as best Chakshushya by all the Acharyas and specially Acharya[8] Sushruta has mentioned Triphala Ghrita as a drug of choice in Timira. Sufficient work has already been carried out in most of the institutions all over the country; yet the clinical research on the promotion of eyesight from Ayurvedic drugs is still in the initial stage. Looking into the gravity of the problem it was decided to work on 'Guduchayadya Anjan'[9] for local application 'Ghritapana' with Laghu Triphala Ghrita[10] for oral administration in the management of Timira.

AIMS AND OBJECTIVES

The present research trial has been under taken with the following main objectives-

1) Conceptual and clinical studies on *pratham patal gata timir* w.s.r. to Myopia & its management with time tested Ayurvedic Principles (*Aahara and Vihara*).

2) To evaluate the efficacy of Laghu Triphla Ghritam and Guduchyadya anjana in the management of pratham patal gata Timir (Myopia).

3) Comparison of above mentioned trial drugs on various scientific and statistical parameters.

Materials and Methods

Plan of Study:

Patients attending the O.P.D. and I.P.D. of P.G.department of Shalakya Tantra and Excelence of Ayurveda Sreedhareeyam eye unit, NIA, Jaipur Rajasthan. & Arogyashala, Hospital with signs and symptoms of Pratham Patalagata Timira (Simple Myopia), having age between 5 years to 25 years were selected for the present study. Patients of different age groups having features described in Pratham Patalagata Timira (Simple Myopia),) were selected and randomly divided into 3 groups.

1. Group A- 10 Patients were treated with Laghu Triphala Gritam orally after food twice daily for a period of two months.
2. Group B- 10 Patients were treated with Guduchayadya Anjanm as local application twice daily for a period of two months.
3. Group C- 10 Patients were treated with Laghu Triphala Ghritam orally after food and Guduchayadya Anjana as local application twice daily for a period of two months.

The patients were selected randomly irrespective of, sex, religion, education and occupation etc.

Drug & Dose Schedule:

- Laghu Triphala Ghritam 1tsf orally twice daily after meal.
- Guduchayadya Anjanam 2 drops locally in eye twice daily.
- Duration **of Trial:** 2 months.

Demographic profile-

i) Maximum number of patients were of age group 16 to 20 years (34.37%), Males (56.25%), unmarried (78.13%), Hindu (68.75%), residents of Urban area (78.13%), Primary level (25%), belonged to middle class (65.62%), Students (90.62%), vegetarian (68.75%), Pitta-Kaphaj Prakriti (40.63%), Positive Family history (50%) and madhyam agnibala (68.75%),

ii) Majority of the patients had stationary type of illness (68.75%), and reading habit of 3 to 5 hours duration (37.50%).

iii) Majority of the patients were found to have chronicity of 0-1 years i.e. 46.87% and symptoms of Avyakta darshan (100%) followed by headache i.e. 62.50%, Eye strain 71.87% and watering from eyes i.e. 62.50%. This signifies that most of the patients were associated with the Asthenopic symptoms, Majority of the patients included in the study were found to have visual efficacy of 6/36 to 6/60 (40.62%) and Dioptric power 0.00 – 1.00 D (42.18%).

Table No.1 Criteria of Assessment

Sign & Symptoms	Scoring				
	0	1	2	3	4
Avyakta darshan	Absence of blurring of vision	Occasional blurring of vision	Regular blurring without disturbing routine works.	Regular blurring disturbing day to day activities	Absolute darkness before the eyes.
Headache	No headache	Occasional headache	Recurrent headache	Regular headache	———
Eye strain	After 6 hours of near work	After 4–6 hours of near work	After 2–4 hours of near work	With in 2 hours of near work	———-
Watering of eye	Absent	Occasional watering	Intermittent watering	Regular watering	————

Table No.2 Status of 32 Patients of *Pratham patal gata Timir* (Myopia)

Patient	Group A	Group B	Group C	Total
Registered	10	12	10	32
LAMA	0	2	0	2
Complete	10	10	10	30

Table No: 3 Effect of Laghu Triphala Ghrita on various symptoms of Myopia in 10 patients

Symptoms	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Avyakta Darshan	2.7	2.0	0.70	25.93	0.48	0.15	4.58	>0.01	HS
Headache	1.4	0.8	0.60	42.86	0.52	0.16	3.67	>0.01	HS
Strain of eye	1.4	0.5	0.90	64.29	0.57	0.18	5.01	<0.001	HS
Watering of eye	1.2	0.3	0.90	75.00	0.74	0.23	3.86	>0.01	HS

Table No: 4 Effect of Laghu Triphala Ghrita on Visual acuity in 10 patients (20 eyes)

Visual acuity	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
(Rt eye)	58.00	68.00	10.00	17.24	6.67	2.11	4.74	>0.01	HS
(Lt eye)	64.00	76.00	12.00	18.75	9.19	2.91	4.13	>0.01	HS

Table No: 5 Effect of Laghu Triphala Ghrita on Dioptric power in 10 patients (20 eyes)

Dioptric power	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
(Rt eye)	1.25	1.05	0.20	16.00	0.16	0.05	4.00	>0.01	HS
(Lt eye)	1.13	0.95	0.18	15.56	0.12	0.04	4.58	>0.01	HS

Table No: 6 Effect of Guduchayadya Anjana on various symptoms of Myopia in 10 patients

Symptoms	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Avyakta Darshan	3.0	2.5	0.5	16.67	0.53	0.17	2.94	<0.01	S
Headache	1.5	0.9	0.6	40.00	0.70	0.22	2.71	<0.01	S
Strain of eye	1.6	0.4	1.2	75.00	0.79	0.25	4.81	>0.001	HS
Watering of eye	1.6	0.2	1.4	87.50	0.70	0.22	6.33	>0.001	HS

Table No: 7 Effect of Guduchayadya Anjana on Visual acuity in 10 patients (20 eyes)

Visual acuity	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
(Rt eye)	51.00	58.00	7.00	13.73	6.75	2.13	3.28	>0.01	HS
(Lt eye)	50.00	58.00	8.00	16.00	9.19	2.91	2.75	<0.01	S

Table No: 8 Effect of Guduchayadya Anjana on Dioptric power in 10 patients (20 eyes)

Dioptric power	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
(Rt eye)	1.28	1.13	0.15	11.76	0.17	0.06	2.71	<0.01	S
(Lt eye)	1.30	1.13	0.18	13.46	0.17	0.05	3.28	>0.01	HS

Table No: 9 Effect of Laghu Triphala Ghrita and Guduchayadya Anjana on various symptoms of Myopia in 10 patients

Symptoms	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Avyakta Darshan	3.0	2.2	0.8	26.67	0.42	0.13	6.00	>0.001	HS
Headache	1.5	0.7	0.8	53.33	0.63	0.20	4.00	>0.01	HS
Strain of eye	1.6	0.3	1.3	81.25	0.82	0.26	4.99	>0.001	HS
Watering of eye	1.4	0.1	1.3	92.86	1.06	0.33	3.88	>0.01	HS

Table No: 10 Effect of Laghu Triphala Ghrita and Guduchayadya Anjana on Visual Acuity in 10 patients (20 eyes)

Visual acuity	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
(Rt eye)	52.00	63.00	11.00	21.15	7.38	2.33	4.71	>0.01	HS
(Lt eye)	50.00	61.00	11.00	22.00	7.38	2.33	4.71	>0.01	HS

Table No: 11 Effect of Laghu Triphala Ghrita and Guduchayadya Anjana on Dioptric power in 10 patients (20 eyes)

Dioptric power	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
(Rt eye)	1.38	1.03	0.35	25.45	0.24	0.08	4.58	>0.01	HS
(Lt eye)	1.43	1.08	0.35	24.56	0.17	0.06	6.33	>0.001	HS

Table No: 12 Effect of treatment on Avyakta Darshan in different groups

Group	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group A	2.70	2.00	0.70	25.93	0.48	0.15	4.58	>0.01	HS
Group B	3.00	2.50	0.50	16.67	0.53	0.17	2.94	<0.01	S
Group C	3.00	2.20	0.80	26.67	0.42	0.13	6.00	>0.001	HS

Table No: 13 Effect of treatment on Headache in different groups

Group	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group A	1.40	0.80	0.60	42.86	0.52	0.16	3.67	>0.01	HS
Group B	1.50	0.90	0.60	40.00	0.70	0.22	2.71	<0.01	S
Group C	1.50	0.70	0.80	53.33	0.63	0.20	4.00	<0.001	HS

Table No: 14 Effect of treatment on Eye strain in different groups

Group	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group A	1.40	0.50	0.90	64.29	0.57	0.18	5.01	>0.001	HS
Group B	1.60	0.40	1.20	75.00	0.79	0.25	4.81	<0.001	HS
Group C	1.60	0.30	1.30	81.25	0.82	0.26	4.99	>0.001	HS

Table No: 15 Effect of treatment on Watering of eye in different groups

Group	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group A	1.20	0.30	0.90	75.00	0.74	0.23	3.86	>0.01	HS
Group B	1.60	0.20	1.40	87.50	0.70	0.22	6.33	>0.001	HS
Group C	1.40	0.10	1.30	92.86	1.06	0.33	3.88	>0.01	HS

Table No: 16 Effect of treatment on Visual acuity (Rt eye) in different groups

Group	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group A	58.00	68.00	10.00	17.24	6.67	2.11	4.74	>0.01	HS
Group B	51.00	58.00	7.00	13.73	6.75	2.13	3.28	>0.01	HS
Group C	52.00	63.00	11.00	21.15	7.38	2.33	4.71	>0.01	HS

Table No: 17 Effect of treatment on Visual acuity (Lt eye) in different groups

Group	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group A	64.00	76.00	12.00	18.75	9.19	2.91	4.13	>0.01	HS
Group B	50.00	58.00	8.00	16.00	9.19	2.91	2.75	<0.01	S
Group C	50.00	61.00	11.00	22.00	7.38	2.33	4.71	>0.01	HS

Table No: 18 Effect of treatment on Dioptric power (Rt eye) in different groups

Group	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group A	1.25	1.05	0.20	16.00	0.16	0.05	4.00	>0.01	HS
Group B	1.28	1.13	0.15	11.76	0.17	0.06	2.71	<0.01	S
Group C	1.38	1.03	0.35	25.45	0.24	0.08	4.58	>0.001	HS

Table No: 19 Effect of treatment on Dioptric power (Lt eye) in different groups

Group	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group A	1.13	0.95	0.18	15.56	0.12	0.04	4.58	>0.01	HS
Group B	1.30	1.13	0.18	13.46	0.17	0.05	3.28	>0.01	HS
Group C	1.43	1.08	0.35	24.56	0.17	0.06	6.33	>0.001	HS

Table No. 20 Summary of the all group observation and results

	Mean B.T.	Mean A.T.	Mean Diff.	% relief	S.D ±	S.E ±	't' Value	p Value	Remarks
Group A	1.675	0.9	0.775	46.27	0.15	0.0750	10.333	>0.001	HS
Group B	1.925	1	0.925	48.05	0.4425	0.2213	4.1805	<0.001	HS
Group C	1.875	0.825	1.05	56.00	0.2886	0.1443	7.2746	>0.001	HS

Discussion on the effect of therapy

The parameters were assessed by statistical evaluation by **PAIRED "T"**

- **Group A** - In group A the clinical improvement in the patients treated with Laghu Triphala Ghrita, the symptom Avayakta darshan was relieved by 25.93%,while 42.86% relief in Headache, the study also shows 64.29% relief in Strain of eye, where as 75%relief was shown in the symptom of Watering of eye, which is statistically highly significant improvement (P<0.01). Visual acuity improvement in Right eye was 17.24% & 18.75% in Left eye, which is statistically highly significant (P>0.01). Dioptric power was decreased in Right eye by 16% & 15.56% in Left eye, which is statistically highly significant (P>0.01).

- **Group B** - After assessing the clinical improvement in the patients of Group B treated with Guduchayadya Anjana, the symptom Avayakta darshan was relieved by 16.67%, while 40% relief in Headache, which is statistically significant improvement (P<0.01) and the symptom of eye strain was relieved by 75% while 87.50% relief in Watering of eye, which is statistically highly significant improvement (P>0.01). Visual acuity improvement in

Right eye was 13.73%, which is statistically highly significant (P>0.01) while 18.75% improvement in Left eye, which is statistically significant (P<0.01). Dioptric power was decreased in Right eye by 11.76%, which is statistically significant (P<0.01) while 13.46%in Left eye, which is statistically highly significant (P>0.01).

- **Group C** - After assessing the clinical improvement in the patients of Group C treated with Laghu Triphala Ghrita and Guduchayadya Anjana, the symptom Avayakta darshan was relieved by 26.67%,while 53.33% relief in Headache, the study also shows 81.25% relief in eye strain, where as 92.86% relief was shown in the symptom of Watering of eye, which is statistically highly significant improvement (P<0.01). Visual acuity improvement in Right eye was 21.15% & in Left eye 22%, which is statistically highly significant (P>0.01). Dioptric power was decreased in Right eye by 25.45% & in Left eye by 24.56%, which is statistically highly significant (P>0.01).

Disscusion About Comparision Between The Groups

According to **Dunn's Multiple Comparisons Test** (for non parameteric data) and **Tukey-Kramer Multiple Comparisons Test** (for parameteric data)

- It was seen that the results were statistically not significant between the groups A&B, A&C, B&C, this implies that group A, B, &C are approximately equally effective. Among these three groups C is found to be most effective in symptoms Avayakta darshan, headache, eye strain & Watering of eye. According to the above observations Group A was found to be more effective in symptoms Avayakta darshan & headache, where as Group B was found to be more effective in symptoms eye strain & Watering of eye.
- The above observation lead us to state that both drugs used in the trial also acts in synergistic form and enhances the effect of therapy as evidenced by the results seen in group C.

Conclusion:

- The present study essentially aims to evaluate the effectiveness of two ayurvedic formulations viz. Laghu Traiphalam Ghrita & Guduchayadya Anjana in the management of Pratham Patalgata Timir w.s.r. to Myopia. 30 patients were randomly selected in this trial and divided into 3 groups. Both the formulations were found to be effective in reducing signs and symptoms and found to be highly significant statistically on various criteria's of assessments.
- Combination of both these Ayurvedic formulation was found to be more effective in all 3 trial groups.
- The efficacy of Laghu Traiphala Ghrita (Group A) in Myopia administered for 2 months, showed 46.27% improvement with p-value >0.001, which is statistically highly significant. Guduchayadya Anjana (Group B) for 2 months 48.05% patients showed improvement in symptoms, p-value is <0.001, which is also statistically highly significant, and in Laghu Traiphala Ghrita & Guduchayadya Anjana (Group C), 56% improvement with p-value >0.001 which is statistically highly significant.
- No adverse and toxic effects were observed during the trial and after the treatment.

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Clinical Study

Evaluate The Efficacy Of *Madhu Kshara Sutra, Vishyandana Taila* And *Pancha Tikta Ghrita Guggulu* In The Management Of *Bhagandara* (Fistula-In-Ano)

*Prof. P. Hemantha Kumar, **Prof. H.K. Kushwaha

Abstract

The Bhagandara is one among the eight troublesome disease described in Ayurveda. Bhagandara is a disease that exists since the early days of evolution of the mankind. The Fistula-in-ano is an abnormal communication between the anal canal and the perianal skin. It usually results from an anorectal abscess, which burst spontaneously or opens inadequately. It is a disease for which operative procedures have been advocated and practiced by the surgeons from various times.

The Kshara Sutra application in 'Fistula-in-ano' especially in complicated, recurrent and high anal types is better than surgery. It offers effective, ambulatory and safe alternative procedure. More than 98% had complete cure without any complication and is an ideal method, probably the best of all known techniques so far.

For complete and fruitful management of Bhagandara needs both local measures and internal medications. So far there is no research carried out in any part of the country on both local as well as systemic treatment of Bhagandara.

Thus in the present study along with the application of Madhu Kshara Sutra and Vishyandana Taila locally, the internal administration of Panchatikta Ghrita Guggulu has also been taken in the management of Bhagandara. Results observed on conclusion of the trial are fairly encouraging and useful.

Key words: Ayurveda, Madhu, Bhagandara, Fistula-in-ano

सारांश–

भगन्दर आयुर्वेद में वर्णित आठ गंभीर रोगों में से एक है। भगन्दर मानव जाति के विकास के शुरुआती दिनों के बाद से मौजूद व्याधि है। भगन्दर गुदा और त्वचा के बीच एक असामान्य संबंध होता है। यह आम तौर पर गुद–विद्रधि के परिणामस्वरूप होता हैं। इस हेतु समय समय से विभिन्न शल्य चिकित्सकों द्वारा शल्य कर्म करने हेतु निर्देशित है। और अभ्यास किया गया है।

जटिल, आवर्ती और उच्च गुदा प्रकार के भगन्दर में क्षारसूत्र कर्म विशेष रूप से शल्य क्रिया की तुलना में बेहतर है। यह प्रभावी, प्रचलित और सुरक्षित विकल्प प्रक्रिया प्रदान करता है। 98 प्रतिशत से अधिक भगन्दर किसी भी जटिलता के बिना पूरी तरह से चिकित्स्य है और क्षार सूत्र द्वारा शल्य चिकित्सा से अभी तक ज्ञात तकनीकों का सबसे अच्छा एवम् एक आदर्श तरीका है।

भगन्दर के पूर्ण और उपयोगी प्रबंधन के लिए स्थानीय उपायों और आंतरिक दवाओं दोनों की जरूरत है। अब तक भगन्दर के प्रणालीगत उपचार के रूप में स्थानीय व आंतरिक रूप में देश के किसी भी हिस्से में कोई शोध नहीं किए गए है।

इस प्रकार वर्तमान अध्ययन में, अच्छे परिणाम के लिये स्थानीय स्तर पर मधु क्षारसूत्र और विस्यंदन तैल के प्रयोग के साथ आंतरिक रूप में पंचतिक्त घृत गुग्गुलु को प्रयोग में लिया गया है। परीक्षण से प्राप्त परिणाम काफी उत्साहजनक और उपयोगी रहे।

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Clinical Study

Evaluate The Efficacy Of *Madhu Kshara Sutra, Vishyandana Taila* And *Pancha Tikta Ghrita Guggulu* In The Management Of *Bhagandara* (Fistula-In-Ano)

Prof. P. Hemantha Kumar, Prof. H.K. Kushwaha

Introduction

Bhagandara is one of the commonest disease occurs in anorectal region. In today's practice too, the incidence of this disease is very frequent. It is one of the chronic perianal diseases and is characterized by one or more openings in the perianal region having connection with the anal canal or rectum. *Sushruta*, the father of surgery has included this disease as one among *Ashtamahagada* [1,2] i.e. the diseases, which are very difficult to treat.

Bhagandara is one among the most troublesome diseases. The word 'Bhagandara' literarlly means splitting or Darana around Guda, Yoni and Vasti. When there is Pidika in the Guda Pradesha, it is called as Pidika only and when it bursts open it is called *Bhagandara*.[3] It is a very painful, dischargeable and uncomfortable condition which presents a challenging situation from the view point of surgeons and a constant source of anxiety and restlessness for the sufferer. Bhagandara resembles with the description of Fistula-in-ano as described in modern medical science.

Fistula-in-ano, considered second to haemorrhoids among all anorectal abnormalities is prevalent all over the world. The word fistula is derived from a Latin word a *reed, pipe or flute*. It implies a chronic granulating track connecting two epithelial-lined surfaces. The anal fistula is a track with an external opening in the skin of perianal region and an internal opening in the modified skin or mucosa of anal canal or rectum.

Need And Significance Of Present Research Work:

The Kshara Sutra application in 'Fistula-in-ano' especially in complicated, recurrent and high anal types is better than surgery. It offers effective, ambulatory and safe alternative procedure. (Indian J. Medical Res. (8) 94, June 1991 Pg. 177-185). More than 98% had complete cure without any complication and is an ideal method, probably the best of all known techniques so far (American Journal of Proctology Feb. 1976 Pg. 39-47).

So far, there have been many researches carried out in different institutions. The treatment, which is available now, is only the local management with Kshara Sutra. The Kshara Sutra therapy was practiced and used since long time with great success and with negligible rate of recurrence. The standard Apamarga Kshara Sutra is prepared by repeated coatings of Apamarga Kshara, Snuhi Ksheera and Haridra Churna. But we are facing some of the problems during the preparation of Kshara Sutra, especially collection and preservation of Snuhi Ksheera is very difficult process. Considering the above problems we are in need to find out a drug which is easily available, preservable and equally effective. *Sushruta* has described Madhu as Vrana Shodhana, Vrana Ropana and Lekhana. So Madhu is selected in place of Snuhi Ksheera.

The Vishyandana Taila has been taken up for the study because it is specifically indicated in Bhagandara Chikitsa as a local measure. It acts as a Vrana Shodhana, Vrana Ropana and Savarnikarana mentioned in *Bhaishajyaratnavali*. [4]

For complete and fruitful management of Bhagandara needs both local measures and internal medications. So far there is no research carried out in any part of the country on both local as well as systemic treatment of Bhagandara. In this context, Panchatikta Ghrita Guggulu is taken as internal medication, because especially it is indicated in Bhagandara mentioned in *Bhaishajyaratnavali*.[5]

Thus in the present study along with the

application of Madhu Kshara Sutra and Vishyandana Taila locally, the internal administration of Panchatikta Ghrita Guggulu has also been taken in the management of Bhagandara.

Aims And Objects:

- Explore the efficacy of Madhu Kshara Sutra, Vishyandana Taila and Panchatikta Ghrita Guggulu on Bhagandara.
- To study the fundamental principles described by *Sushruta* in the management of Bhagandara with respect to both local and systemic measures.
- Taming the symptoms like pain, itching, discharge and unit cutting time.

Materials And Methods:

For the present study Apamarga Kshara Sutra, Jatyadi Taila, Madhu Kshara Sutra, Vishyandana Taila and Panchatikta Ghrita Guggulu were taken.

I. Apamarga Kshara Sutra – The ingredients are Apamarga Kshara, Snuhi Ksheera and Haridra Churna.

II. Jatyadi Taila – The ingredients are as follows: Jati, Nimba, Patola, Karanja, Yastimadhu, Kusta, Haridra, Daru Haridra, Katuki, Manjista, Padmaka, Lodhra, Haritaki, Kamala, Sariva, Sashyaka, Siktaka, and Tila Taila

III. Madhu Kshara Sutra - The ingredients are Madhu, Apamarga Kshara and Haridra Churna.

IV. Vishyandana Taila – The ingredients are as follows: Chitraka, Arka, Trivrit, Patha, Kakodumbara, Karavira, Snuhi, Vacha, Langali, Haratala, Svarji Kshara and Jyothismati.

V. Panchatikta Ghrita Guggulu - The ingredients are as follows: *(a) Kashaya drugs:* Nimba, Amrita, Vasa, Patola and Nidigdhika *(b) Ghrita (c) Guggulu (d) Kalka drugs:* Patha, Vidanga, Devadaru, Gajapippali, Yava Kshara, Svarajjika Kshara, Nagara, Nisha, Mishi, Chavya, Kushtha, Maricha, Vatsaka, Yavani, Chitraka, Rohini, Bhallataka, Vacha, Pippalimula, Manjishta Ativisha, Parsikayavani and Ajamoda.

Selection of Patient:

250 patients of different types of Bhagandara were taken from anorectal specialty unit of SDM College of Ayurveda and Hospital, Hassan, Karnataka irrespective of their sex, caste, religion etc.

Inclusion Criteria:

- Patients will be selected in between 20 to 70 years.
- Diagnosed patients of all types of Bhagandara / Fistula-in-ano will be selected.

Exclusion Criteria:

- Patients suffering from systemic diseases will be excluded.
- Patients suffering from secondary fistula due to ulcerative colitis, crohn's disease, tuberculosis, carcinoma, HbSAg and HIV were excluded.

Grouping of the Patient:

For clinical trial 250 patients have been grouped in 10 groups having 25 patients in each group.

Group-I - Apamarga Kshara Sutra

Group-II - Apamarga Kshara Sutra + Jatyadi Taila

Group-III - Apamarga Kshara Sutra + Vishyandana Taila

Group-IV - Madhu Kshara Sutra

Group-V - Vishyandana Taila

Group-VI - Panchatikta Ghrita Guggulu

Group-VII - Madhu Kshara Sutra + Vishyandana Taila

Group-VIII - Madhu Kshara Sutra + Panchatikta Ghrita Guggulu

Group-IX - Panchatikta Ghrita Guggulu + Vishyandana Taila

Group-X - Madhu Kshara Sutra + Vishyandana Taila + Panchatikta Ghrita Guggulu

Investigations:

1. Routine investigations like Blood for T.L.C., D.L.C., Hb, ESR, FBS, blood urea, serum creatinine, HIV and HbSAg, urine routine and microscopy, stool for ova, cyst and occult blood.

2. Others - Pus culture and sensitivity, tissue biopsy, fistulography, ultrasonography, MRI, CT scan etc. (when ever necessary).

Assessment criteria:

The following parameters were given self gradation -

1. Unit Cutting Time (U.C.T.)

$$\textbf{U.C.T.} = \frac{\text{Total no. of days taken to cut through}}{\text{Initial length of track in cms}} = \text{——— days / cms.}$$

2. Pain
3. Discharge
4. Itching
5. Swelling
6. Size of the wound
7. Healing time after cut through

Statistical Analysis:

All information which are based on various parameter was gathered and statistical study was carried out in terms of mean (X), standard deviation (S.D.), standard error (S.E.), paired test (t.value) and finally result were incorporated term of probability (p) as

- p >0.05 - Insignificant
- p < 0.05 - Significant
- p < 0.01 and p<0.001 - Highly significant

Application of Madhu Kshara Sutra:

The application of Madhu Kshara Sutra is same technique of Kshara Sutra application in Fistula-in-ano. It was changed weekly till recovery.

Application of Vishyandana Taila:

1cc Vishyandhana Taila administration with the help of scalp vein set (needle cut and removed) and attached with syringe pushed in the fistula track and dressing with bandage. The procedure repeated daily except the probing done once a week and the depth of the track were measured.

Administration of Panchatikta Ghrita Guggulu:

It administered orally with dose 20 ml twice a day with hot water after food for 21 days.

Observations:

All 250 patients of Fistula-in-ano have been analyzed for age, sex, habitat, socio-economic status, Doshic Prakriti, type of Bhagandara, type of fistula, chronicity of disease, position of external openings, length of the fistulous track, clinical findings, unit cutting time etc.

Out of the 250 patients of Bhagandara studied in this series, maximum were belonging to 31-40 years of age group (34.8%), male sex (82.4%), rural area (58.8%), hindu religion (68.8%), low-economic status (44.8%), strenuous work (61.6%), mixed diet (83.2%), farmers (47.2%) and of Kaphaja Prakriti (43.6%).

The maximum patients of this series were diagnosed as Parisravi Bhagandara (55.6%) and intersphincteric fistula (49.2%) with less than one year chronicity (90.8%). The most of the patients were previously non operated (67.2%), having single external fistulous opening (69.6%) and blind external fistula (62%). The initial length of fistula ranged in 6-10 cm (52.8%).

The analysis of average U.C.T. was noted in relation to age group, chronicity, length of track, type of Bhagandara and type of fistula in each group. The analysis shows that average U.C.T. was 8.33 days/cm in other groups which is greater in comparison to

Madhu Kshara Sutra + Vishyandana Taila + Panchatikta Ghrita Guggulu group as 6.96 days/cm.

Results:

The clinical observations like pain, discharge, itching, swelling, granulation tissue, wound healing and unit cutting time were analyzed in all ten groups.

Comparison of effect of therapies on the clinical findings of Bhagandara

Clinical Findings - % Of Change

Groups	Pain	Discharge	Itching	Swelling	Granulation tissue	Wound Healing (Days)			Average UCT Days/cm
						7	14	21	
I	86.3	87.3	89.1	89.3	94.7	28.5	61.9	91.7	8.12
II	86.7	87.3	90.5	90.7	88.6	28.6	58.3	91.6	8.06
III	91.2	85.7	91.5	90.7	94.7	25.3	62.7	92	8.1
IV	91.7	85.7	88.1	88.5	81.7	25.3	62.6	92	8.34
V	91.7	85.7	88.1	88.6	87.4	-	-	-	-
VI	91.1	85.7	89.1	89.3	94.7	-	-	-	-
VII	91.3	84.7	85.1	88.5	93.7	25.3	62	91.2	8.5
VIII	92.6	87.1	91.8	90.6	94.7	25.3	61.6	90.6	8.1
XI	88.2	85.7	88.1	88.6	88.6	-	-		-
X	92.7	87.6	91.8	91.1	94.8	32.1	63.3	92.5	6.96

Comparison of overall effects of therapies on the patients of Bhagandara

	Gr-I		Gr- II		Gr-III		Gr-IV		Gr-V	
Improvement	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Complete *Remisssion*	16	64	18	72	14	56	15	60	0	0
Marked *Improvement*	5	20	4	16	6	24	5	20	4	16
Moderate *Improvement*	3	12	2	8	2	8	3	12	13	52
Mild *Improvement*	1	4	1	4	3	12	2	8	3	12
Unchanged	0	0	0	0	0	0	0	0	5	20

	Gr-I		Gr- II		Gr-III		Gr-IV		Gr-V	
Improvement	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Complete Remisssion	0	0	11	44	13	52	0	0	21	84
Marked Improvement	5	20	7	28	5	20	6	24	2	8
Moderate Improvement	12	48	5	20	4	16	13	52	1	4
Mild Improvement	2	8	2	8	3	12	2	8	1	4
Unchanged	6	24	0	0	0	0	4	16	0	0

Mechanism of action of Madhu Kshara Sutra:

- It does cutting layer by layer and there is continuous drainage of fistulous track which helps in healing.
- The medicaments which are used to prepare the thread will dissolute the fistulous tissue of the track (Debridement by the Ksharana process) and Madhu stimulate the healthy granulation tissue for healing.
- Kshara Sutra-in-situ encourages healing by new granulation tissue formation from the base.
- It not only cut the tissue, but also does continuous drainage of the wound, which enables to lay the track open.

Probable mode of action of Panchatikta Ghrita Guggulu:

- It contains 35 ingredients which have various types of actions in the body. Most of these ingredients are having Tikta Rasa, Ushna Veerya, Madhura and Katu Vipaka.
- Tikta Rasa having anti-inflammatory properties and can reduce the pain and swelling of the mucosa.
- Ghrita is Vata-pittashamaka, Balya, Agnivardhaka, Madhura, Saumya, SheetaVeerya, Shula, Jwarahara, Vrishya and Vayasthapaka. It helps in the Samprapti Vighatana of the Bhagandara.
- Guggulu have the properties of anti-inflammatory, immunomodulatory and anti-lipidemic action.
- It is predominant of Ushna Veerya and help in pacification of aggravated Vata.

Probable mode of action of Vishyandana Taila:

- Most of the drugs are having the Vedanahara property.
- Most of the drugs containing Laghu, Teekshna and Ushna Guna along with Kaphashamaka properties. So, the reduction of discharge of pus is observed in subsequent application of Vishyandana Taila.
- Most of drugs are having the Tikta and Katu Rasa, Laghu, Teekshna and Rooksha Guna along with the Shothahara properties which help in reducing the swelling.
- It contains the drugs like Arka, Karaveera and Saptaparna which are having Katu, Tikta Rasa, Laghu and Teekshna Guna along with Kandughna property shows the marked reduction of itching.

Conclusion:

Based on the above clinical statistical data it may be concluded as follows:

- There was a marked reduction in pain, itching, swelling, discharge and local reactions as compared to other groups.

Pharmaceutical Study

Pharmaceutical and Analytical studies of *Eranda Paka*

*Dr. Kamal Kr. Barman, **Dr. Jayanta Kr. Sharma, ***Dr. Parimi Suresh

Abstract:

From last few decades people seeking remedies and health approaches with the help of herbal medicine. Newer guidelines for manufacturing, standardisation and quality control and scientific research are necessary for Ayurvedic medicine.

The aim of the present study is to fix the SOP of *Eranda paka*. *Eranda paka* is a well known polyherbal Ayurvedic formulation where *Eranda (Ricinus communis Linn.*) is the main ingredient and used mainly for the treatment of *vatavyadhis*.

It is observed that the loss in de-shelling of *Eranda* seed is 30%. The contribution of milk is calculated as 10-12%. TLC showed three spots of all the three samples with same Rf values indicates that same types of compound are present in all samples. The Eranda paka should be prepared in granule form because it can be preserved for a long period of time.

Key words: Ayurveda, Eranda paka, SOP, Analysis.

सारांश–

गत कुछ दशकों से लोग काष्ठौषधियों की सहायता से योग और आरोग्य की खोज कर रहे है। आयुर्वेदिक औषधियों के निर्माण मानकीकरण, गुणवत्ता निर्धारण एवं वैज्ञानिक अनुसंधान के लिए नए दिशा निर्देर्शों की आवश्यकता है।

वर्तमान अध्ययन का उद्देश्य एरण्ड पाक के SOP का निर्धारण करना है। एरण्ड पाक एक अनेक आयुर्वेदिक काष्ठौषधियों का प्रचलित योग है, जिसमें एरण्ड *(Ricinus communis Linn.*) मुख्य घटक है और जिसका उपयोग वातव्याधियों की चिकित्सा में किया जाता है।

एरण्ड बीज के छिलके निकालने में 30 प्रतिशत हानि देखी जाती है। दुध का योगदान 10–12 प्रतिशत देखा गया है। तीनों योगों की TLC में एक ही Rf मान के तीन स्पॉट को देखा गया, जिससे पता लगता है कि सब योगों में एक जैसा यौगिक उपस्थित है। एरण्ड पाक का हमेशा ग्रेन्यूल्स के रूप में निर्माण करना चाहिये क्योंकि इससे यह अधिक दिनों तक सुरक्षित रहता है।

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Pharmaceutical Study

Pharmaceutical and Analytical studies of *Eranda Paka*

Dr. Kamal Kr. Barman, Dr. Jayanta Kr. Sharma, Dr. Parimi Suresh

Introduction:

Ayurveda is an age old science of life. The main object is not only to cure the diseases but also to preserve the health. It is the oldest and most holistic medical system available on the planet today. Considering the adverse effects of synthetic drugs, the western population is looking for natural remedies which are safe and effective[1].

Pharmaceutical study means the different process involve in the manufacturing of drug. Like healing, drug manufacturing too is an art. The significance of drug has been rightly established in Ayurveda. Looking the importance of drug Acharya Charaka placed it at second position after physician in the *'Chikitsa Chatuspada'*[2]. The drug should have four properties i.e. to be dispensable in multiple dosage forms, to be available in abundance, with all pharmacological properties and suitability etc.[3] Therefore, while treating an ailment the first and foremost thing is the selection of a drug which is prepared in a proper way. Hence, the present study is planned to prepare the drug *Eranda paka* following all the methods mentioned in classical texts as well as the latest guidelines mentioned in the Ayurvedic Formulary of India (AFI) in Part-2 issued by the Government of India[4]. The planning of the present study is to prepare three samples to fix the Standard Operative Procedure (SOP).

***Eranda Paka*- An overview:**

Eranda paka is a classical polyherbal formulation as described in *Yogaratnakara* in *vatavyadhi Chikitsa*[5]. It is also available in *Brighat Nighantu Ratnakar* under the name of *Vatari paka* or *Shukla paka* for the treatment of *Vatavyadhi*[6]. However in *Yogaratnakara* certain ingredients have been added additionally, on the other hand some have been omitted from the formulation of *Brihat Nighantu Ratnakar*. The *Brihat Nighantu Ratnakar* has incorporated the *Lauha bhasma* and *Abhraka bhasma* as the mineral ingredients and the same have been omitted in *Yogaratnakara*. After considering its importance the Govt. of India has included it in the official Ayurvedic Formulary of India, Part-2.

There are various dosage form are available in Ayurvedic classics. *Paka* is a semisolid dosage form which is prepared by the addition of Ghrita, Sugar etc. comes under *Avaleha Kalpana*. But looking to durability it was prepared in granule form which can be preserved for a long period of time. It consist of total 39 ingredients as mentioned below-

Table 1: Showing ingredients of Eranda paka

Sl. No	Ingredients	Latin Name	Proportion
1.	*Eranda*	Ricinus communis	1 part
2.	*Godugdha*	Cow's milk	8 part
3.	*Goghrita*	Cow's ghee	½ part
4.	*Khanda*	Sugar	2 part
5.	*Sunthi*	Zingiber officinale	1/64 part
6.	*Marich*	Piper nigrum	-do-
7.	*Pippali*	Piper longum	-do-
8.	*Ela*	Eletharia cardamomum	-do-
9.	*Tvak*	Cinnamomum verum	-do-

10.	*Patra*	Cinnamomum tamala	-do-
11.	*Nagakesara*	Mesua ferrea	-do-
12.	*Granthi*	Piper longum	-do-
13.	*Vahni*	Plumbago zeylanica	-do-
14.	*Cavya*	Piper chaba	-do-
15.	*Chatra*	Coriandrum sativum	-do-
16.	*Misi*	Foeniculum vulgare	-do-
17.	*Shati*	Hedychium spicatum	-do-
18.	*Bilva*	Aegle marmelos	-do-
19.	*Dipyaka*	Trachyspermum ammi	-do-
20.	*Svetajiraka*	Cuminum cyminum	-do-
21.	*Krishnajiraka*	Carum carvi	-do-
22.	*Haridra*	Curcuma longa	-do-
23.	*Daruharidra*	Berberis aristata	-do-
24.	*Asvagandha*	Withania somnifera	-do-
25.	*Bala*	Sida cordifolia	-do-
26.	*Patha*	Cissampelos pareira	-do-
27.	*Hapusa*	Juniperus communis	-do-
28.	*Vella*	Embelia ribes	-do-
29.	*Puskara*	Inula racemosa	-do-
30.	*Svadamstra*	Tribulus terrestris	-do-
31.	*Ruk*	Saussurea costus	-do-
32.	*Haritaki*	Terminalia chebula	-do-
33.	*Bibhitak*	Terminalia bellirica	-do-
34.	*Amalaki*	Phyllanthus emblica	-do-
35.	*Daru*	Cedrus deodara	-do-
36.	*Vellari*	Callicarpa macrophylla	-do-
37.	*Abha*	Acacia nilotica	-do-
38.	*Aluka*	Dioscorea bulbifera	-do-
39.	*Vari*	Asparagus racemosus	-do-

Material And Methods:

Preparation of *Eranda paka*

The drug *Eranda paka* has been prepared following the guidelines mentioned in the AFI, Part-2. All the raw materials were procured from the Pharmacy attached to the National Institute of Ayurveda, Jaipur. Three samples were prepared to fix the SOP.

Practical No.1 (Powdering of herbal ingredients): The raw materials were taken 100 g. each from Sl. No. 5-39. It was cleaned and dried well until the disappearance of the moisture content. Each ingredient was reduced to fine powder separately by passing through the Pulveriser. This fine powder was passed through sifter, to remove the fibres if any. This powder was packed in air tight glass container and kept it in dark place till the processing of samples. The total qty. of powder was 3.150 kg.

Practical No.2 (Peeling and pulping of *Eranda* bija): Total quantity of *Eranda bija* was taken 2 kg. It was cleaned and the internal fleshy cotyledons were collected by de-shelling the outer hard layer by applying simple mechanical pressure. Total pulp acquired was 1.4 kg. Thus collected cotyledons were prepared into pulp by passing through the mixer grinder.

Practical No.3 (Preparation of *Eranda paka*): Material taken for this practical was-

Eranda bija pulp : 400 g.

Godugdha : 3.2 litres

Goghrita : 200 g.

Khanda : 800 g.

Powder of drugs : 6.25 g. each X 35=218.75 g.

Following steps were followed for the preparation-

1) Firstly uniform paste of *Eranda bija* was prepared.
2) Paste of *Eranda bija* was taken in stainless steel vessel and subjected to heat over *mandagni* (mild heat) and stirring was done constantly.
3) After half an hour the paste was became soft in consistency and started giving out oil.
4) Gradually it became like the colour of honey (brownish colour); then previously boiled milk was added to it and stirred vigorously to get homogenous mixture.
5) In this condition the intensity of heat was increased.
6) When the consistency of the material became semisolid like that of *khova*, ghee and sugar were added to it.
7) After appearing the *avaleha siddhi lakshana* the heat was stopped and *prakshepa* of the prescribed *curna* was added to it by observing continuous stirring.
8) This homogenous mixture on attaining lukewarm condition was sieved well to get granules of uniform size.
9) Lastly after reaching to room temperature it was kept in well closed container.

By the same procedure another two samples were prepared, but the quantity of the ingredients were taken half of the sample no.1.

The yield in the sample no.1(EP-1) is 1.970 kg. while in sample no.2 (EP-2) it is 0.983 kg. and in sample no.3 (EP-3) the yield is 1.005 kg.

Table 2: Showing the observations during preparation of *Eranda paka*

Sl. No	Parameter	Observation		
		EP-1	EP-2	EP-3
1.	Time taken for frying of paste	1 hr. 30 min.	45 min.	50 min.
2.	Maximum temperature recorded during the process of frying	110°C	110°C	110°C
3.	Duration to become *khova* like	1hr. 40 min.	55 min.	50 min.
4.	Temperature when ghee and sugar is added	90°C	94°C	90°C
5.	Duration of *paka* after adding ghee and sugar	55 min.	35 min.	40 min.
6.	Temperature when *prakshepa* is added	60°C	60°C	60°C
7.	Mixing of *prakshepa* and granule making	25 min.	15 min.	15 min.
8.	Total time required	4 hr. 30 min.	2 hr. 30 min.	2 hr. 35 min.

Precaution during the process:

1. Before using all the equipments they should be properly washed and dried.
2. The paste should be heated over very mild fire.
3. Continuous stirring should be done to avoid burning/ carbonizing of material by sticking in the inner bottom of the vessel.
4. *Prakshepa* must be added little by little at the end with continuous stirring while *paka lakshana* is observed.
5. The end product should be free from moisture and should be kept in airtight container.

Analytical Study:

All the three samples have been analyzed following different parameters. It was studied for organoleptic characters and physic-chemical parameters. Organoleptic characters of the samples are obtained by using sense organs. It is a very useful parameter to determine and compare the quality of samples.

Results:

Table 3: Showing the Organoleptic parameters of the samples

Sl. No.	Parameters	EP-1	EP-2	EP-3
1.	*Rupa*	Brown	Brown	Brown
2.	*Rasa*	*Madhur &* mild *tikta*	*Madhur &* mild *tikta*	*Madhur &* mild *tikta*
3.	*Gandha*	Odour specific to the ghee and spices like *Elachi, Dalcini*	Odour specific to the ghee and spices like *Elachi, Dalcini*	Odour specific to the ghee and spices like *Elachi, Dalcini*

Table 4: Showing physic-chemical parameters of different samples

Sl. No.	Parameters	EP-1	EP-2	EP-3
1.	Loss on drying	3.151% w/w	2.906% w/w	4.046% w/w
2.	Total Ash	2.512% w/w	6.488% w/w	2.539% w/w
3.	Acid insoluble ash	0.197% w/w	0.388% w/w	0.263% w/w
4.	Fat Content	27.646% w/w	26.490% w/w	27.396% w/w
5.	Total Sugar	47.139% w/w	46.655% w/w	41.334% w/w
6.	Reducing Sugar	42.880% w/w	44.207% w/w	38.181% w/w
7.	Non-reducing sugar	4.259% w/w	2.448% w/w	3.153% w/w
8.	Thin Layer Chromatography	0.75, 0.68, 0.34	0.74, 0.69, 0.33	0.73, 0.70, 0.32

Discussion:

The Practical No.1 showed 10% loss in the total yield on powdering of the raw materials. This loss can be attributed to handling loss, because the weight of materials was less and the total quantity was passed through the pulveriser. While grinding in the pulveriser the loss can be observed in the materials rising in the form of dust and also some portion will remain within the pulveriser. The final powder was passed through sifter by using 80 mesh as per the standards.

The Practical No.2 showed that on peeling of the seeds of Eranda the pulp received is 1.4 kg and thus the loss observed was 30%. The loss was due to de-shelling of the seeds. The de-shelling has been done manually hence loss was minimal otherwise the loss would be more if machines have been used.

Three samples of *Eranda paka* were prepared and all the samples took a day time for completion. The de-husked *Eranda* seeds were prepared into paste form using mixer grinder on the day of manufacturing. It is always advisable to prepare the paste on the same day instead of preparing and storing. The classics have recommended boiling the seeds in milk. However from the study it is observed that crushing and frying the pulp till releasing of oil over mild fire is better option rather than boiling in milk. In the sample no.1 the *Eranda* seed pulp took almost double the time than the sample no. 2 &3 as the quantity of the pulp is more. The temperature of the pulp has gone to 110°C in all the three samples. It is because the oil from the seed was released and this oil might be the reason for this temperature. The boiling of milk with *Eranda* pulp took nearly double the time in sample no.1 compared to other two samples, as it contains more amount of milk. Ghee and sugar were added to the material when it becomes *khova* like and at that time the recording of temperature has showed more or less 90°C. Which means when the material becomes *khova* like the temperature might reach 90°C. The material took 35-40 minutes for reaching the final stage and since the sample no.1 contains more amount of material it took more time. The *prakshepa* was added at 60°C in all the samples to avoid the denaturation etc. Further it took 15 minutes time to prepare the granules for sample no. 2 & 3 and 25 minutes for sample no.1 and the granules were prepared using the mesh to get uniformity.

The yield in the sample no.1 is 1.970 kg. while in sample no.2 it is 0.983 kg. and in sample no.3 the yield is 1.005 kg.

The expected quantity from sample no.1 should be around 1.619 kg. (*Eranda* pulp 400 g.+ sugar 800 g. + ghee 200 g. + powder additives 218.75 g.) plus solid content from 3.2 litres of milk. As per label of Goras Diary Milk which was used for the study per 100 ml. contains Carbohydrates: 4.6 g., Protein: 3.2 g., Total fat: 3.0 g. Total comes to 10-11%. The actual yield obtained 1.970 kg. minus 1.619 kg. is the contribution from milk i.e. 351 g. and if it is calculated comes to 10.9%. It is therefore the actual yield obtained and expected yield are more or less same.

The expected yield from sample no.2 is 0.810 kg. (*Eranda* 200 g. + sugar 400 g. + ghee 100 g. + powder additives 110 g.) plus solid content @11% from 1.6 litres is 176 g i.e. 0.986 kg. The actual yield obtained after finishing is 0.983 kg. The observed loss is 0.3%. In this the milk has contributed 173 g., which comes to 10.8%.

The expected yield in sample no. 3 is also 0.986 kg., but the yield obtained is 1.005 kg. Thus a gain of 1.9% was observed. In this sample the 1.6 litres of milk contributed 195 g. @ 12.2%.

All the three samples have been analyzed following different parameters. As far as the organoleptic properties are concerned, the samples have showed identical results. All appeared brown in colour with very minute changes in shade which are unnoticeable. The taste is sweet with mild bitterness. The sweetness is due to the presence of sugar and mild bitterness can be attributed to the powder of *Elachi* which was added at the end stage. Also the mild bitterness can be due to the powder of *Ashwagandha* etc. ingredients. Since the preparation contains ghee and the spices like *Elachi* etc. have been added at the end stage and these drugs because of their penetrating power have exhibited in the form of odour.

All the three samples have been analyzed for its moisture content and have showed varied readings. The sample no.3 has showed maximum percentage (4.046%) of moisture followed by sample no.1 (3.151%) and the sample no.2 (2.906%) has showed less amount

of moisture. However all samples showed the moisture levels within the normal limits.

Similarly the total ash which represents the presence of inorganic elements in the material also showed varied results. The sample no.2 showed highest percentage of total ash while the rest of samples i.e. 1& 3 have showed identical results. However if the quantum of the materials are viewed, the sample no.1 has got the double the material than the sample no.3. Therefore, the sample no.1 (2.512% w/w) has showed lowest total ash content. Thus the inorganic material present in the sample no.2 (6.488% w/w) is more followed by sample no.3 (2.539% w/w). The sample no.1 contains very little amount of inorganic elements. It is difficult to explain the reasons in spite of the measures adopted from starting materials to end product are identical. Also the method adopted was identical in all samples even then how it happened. There might be one possibility i.e. cross contamination however it can be ruled out in the sample preparations.

The acid insoluble ash which represents the presence of silicacious material in the samples showed the results within the normal range. The analysis of the fat content has showed identical results in all the three samples. It indicates that the ghee and presence of oil in the *Eranda* in all the samples in equal proportions.

The total sugar content in all the three samples has showed more or less similar results with slight variation in sample No.3 and it is thus indicates that all the samples contain equal amount of sugar in them. The thin layer chromatography has showed three spots (0.75, 0.68, 0.34 / 0.74, 0.69, 0.33 / 0.73, 0.70, 0.32) in all the three samples with same Rf values indicating that same type of compounds present in all the three samples.

Conclusion:

The *Eranda paka* should be prepared in granule form because it can be preserved for a long period of time. For the preparation of *Eranda paka,* the results obtained can be used to develop a new set of pharmacopeial standards. The scientific analysis for standardization and development of authentic operative procedures for Ayurvedic formulations is highly essential. There is also need for experimental and clinical study to evaluate the effect of the drug and elucidate its complete mechanism of action.

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Pharmacological Study

Laboratory Animals In The Study Of Evidence Based Ayurveda (Common laboratory Animals)

** Prof. K. Shankar Rao, **Dr. Sakhita K.S., ***Dr. Dolly Suman*

Abstract

The study of animals has relevance to humans dietary / medical requirements in a broad sense, but there are aspects of nutrition in humans and animals that are peculiar to each category. Many of the mineral deficiencies found in humans can be mimicked in Rats, Mice, Hamsters and Guinea pigs etc.. laboratory animals. These animals can also be used for the study of evidence based Ayurveda Viz. Study of disease, safety and efficacy of Ayurvedic herbal medicaments and also useful to study of toxicity of organo-metallic & organo-mineral Rasoushadhies.

Key words: Hamster, Rasoushadhi, Safety and Efficacy.

सारांश–

आधुनिक युग में आयुर्वेदीय वानस्पतिक एवं रस औषधियों का साक्ष्य आधारित सुरक्षा एवं विषाक्तता का अध्य्यन करना अति आवश्यक है। यह एक प्रायोगिक कार्य है जो जीव –जन्तुओ पर अध्य्यन करने से ही सिद्व होगा। अत: किन किन जीव–जन्तुओ (चूहा, खरगोश, मिनी पिग इत्यादि) पर किस प्रकार का अध्ययन किया जाना चाहिए और उनके प्रतिरूप एवं विधियों का विवरण वर्तमान अध्ययन पत्र में दर्शाया गया है।

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Pharmacological Study

Laboratory Animals In The Study Of Evidence Based Ayurveda (Common laboratory Animals)

Prof. K. Shankar Rao, Dr. Sakhita K.S., Dr. Dolly Suman

Introduction:

The study of animals has relevance to humans dietary/medical requirements in a broad sense, but there are aspects of nutrition in humans and animals that are peculiar to each category[1]. Yet, thousands of

Experiments have been done on numerous species of animals in which the diet has been deficient, excessive or abnormal in one respect or another and the progress of the animals has been followed in various ways. Much of the initial work in 18th and 19th century was aimed at identifying constituents in the diet essential for maintaining optimal body function and determining empherically the optimal level of such constituents in the diet. Thus the initial work was directed towards metabolic diseases that are produced by the lack of a single dietary constituents such as proteins, fats, vitamins or mineral[2]. The most prefered species during this era were Rats, Guinea pigs, Dogs, Fowl, Swine and Monkeys[3]. These experiments revealed the importance of adequate protein and calories in the diet for optimal growth in animals and humans and also led to the discovery of important vitamins and minerals as essential nutrients. Emphasis has now switched from producing simple nutritional disorders to elucidating the role or possible role of nutrition in physical and mental performance and the multifactoral aetiology of the diseases such as cancer, heart diseases, diabetes etc. This has created demands for identification of newer species and or mutants of existing species as animal models[4].

Transgenic animals have enlarged the scope of producing suitable models beyond imagination. A brief out line of the common species and other new entrants used in nutritional[5], study of evidence based Ayurveda viz. Study of disease, safety and efficacy of Ayurvedic medicaments and study of Sub acute, acute and chronic toxicity of organo-metallic & organo-minerals of Rasoushadhi research along with their specific characteristics, and useful area of research are given below. Transgenic animals however are not included.

Animal Models

I. Mouse (Mus musculus)

Mice in general have vast deposits of fat in their body, and many of them are found to be genetically obese. So it is difficult to produce Protein deficiency in these animals. Mortality is very high, when the protein is very low in their diets. Their growth spurt from weaning to adult stage is rather negligible unlike rats and other species, and they are seldom used in growth studies involving vitamins and minerals[5]. However, mouse is a good species to study mineral toxicities, such as those of Yashada bhasma, Rasa bhasma, Naga, Vanga and Loha bhasma etc..

Mice are eminently suitable for diet induced obesity and diabetes, and a number of mutant strains (Ay, ob, db, fatty, NOD, tubby, Ad, Nzo and KK) have been developed for this purpose. Mice have also been found useful in studying the effects of Ahara on gallstone formation and the production of experimental carcinogenesis[6].

Since, mice are vulnerable to several diseases, they are used to study nutrition-infection relations and effects of malnutrition on immunity. Some examples are malnutrition and tuberculosis, protein, calorie deficiency and pneumococcal infection, B-complex deficiency and influenza, magnesium, selenium deficiency and general immunity.

Mice are also ideal animal models for the study of pesticide and aflatoxin toxicities.

II. RAT (Rattus norvegicus)[7]

Ever since the discovery of vitamin 'A' during 1906-1913 by the pioneering work of Hopkins, Osborne and Mendel, and Mccollum and Davis, rats have become the ideal choice for nutritional and toxicological evidence based Ayurvedic drug research. Apart from its convenient size, hardy nature and prolific breeding, it has the unique ability of continuous growth and weight increase, for a long period after weaning. The latter is probably one of the most important explanations for its wide-spread use since so animals that continue to gain weight over extended periods of time. Apart from vitamins like riboflavin, pyridoxine, biotin and Vitamin E were possible only due to the studies on rats. Most studies on biological value of Avalehyas, Asavarishtas, protein, effects of starvation and micronutrient deficiencies (All the Mineral, Metallic & Gem stone bhasmas / Pistis) have used different strains of rats.

Maternal under nutrition resulting in the formation of small far-date babies can be studied in rats, by subjecting pregnant rats to under nutrition from conception to 5 days of post natal age. The 5 days old rat, is an appropriate model for human newborn in terms of brain maturation . A new born rat brain is much less mature than that of a new born human brain for age 25-30 weeks of gestation. A technique involving ligation of one uterine artery on the 17th day of gestation has also used to develop a model for the human low birth weight baby example studies on Garbapal Ras and neurotrophic drugs etc.. At the postnatal stage, two common techniques can be used to produce under nutrition in infant rats, and to study their effects on growth of the body[7]. In one procedure, the mothers are fed adlibitum and the size of the litters is varied (5,10,16 pups). In another procedure, the liter size is kept constant at 8 pups per mother, but during lactation mothers are fed either adlibitum (control group) or their food intake restricted to 20 or 40% of normal consumption.

Young rats usually develop clear signs of vitamin A deficiency with in 60days of birth if maintained on a vitamin A deficient diet from the day of delivery. An animal model for rickets in weanling rats can be developed by maintaining animals on low –phosphate, high- calcium vitamin D free diet for two weeks. But care should be taken to see that experimental animals are should be kept away from sunlight and windows in the animal rooms covered so that no light from outside gets in. Artificial lighting with lamps that produce no ultra-violet rays should be used with a 10-12 hrs. light and dark cycle[8].

A rat model of vitamin B12 deficiency was reported by frankel and White (1973) wherein weanling rats protected against coprophagy and maintained on vitamin B12 deprived diets had in limited growth and

Maturation. Several experimental diets are available for producing various B –complex vitamin deficiencies. Since rats ingest 50-60% of its faeces under normal circumstances, care should be taken to keep the level of coprophagy to the minimum to produce B complex deficiencies. To do so individual suspended cages with wire-screen bottoms of 0.5" width can be used, so that the facial pellets fall through these openings easily. Sucrose –based diet rather than starch- based diet is more suitable. Rat cannot be used for studies on Vitamin C (Study of Chayavanprash, Brahmarasayan and Amalaki Rasayana for vit.C) and does not need it through the Diet.

Many of the mineral deficiencies found in humans can be mimicked in rats Viz; Loha bhasma in Pandu, Abhraka bhasma in Pandu, Madhumeha, Yashada bhasma in Madhumeha, Naga and Vanga bhasmas in reproductive system and other diseased conditions (manganese, chromium, Zinc, sodium, tin, nickel mineral deficiency diseases) etc.. Rats are excellent models to study the interaction of Tamra and Yashsada bhasmas, and vitamin E and selenium.

Essential fatty acid deficiency can be produced in rats by feeding a fat free diet supplemented with 4% tri-palmitin for 8-12 weeks from the time of weaning. Fatty liver and cirrhosis have been recognized as sequelae of excessive in take of alcohol and its accompanying nutritional problems. Rats have the best studied system with respect to branched chain amino acid catabolism especially, leucine, isoleucine, and valine and appear to be qualitatively similar to humans in this respect. Much of our under- standing of the regulation and metabolism of these amino acids have come from

studies on rats. A rat model of fatty liver and cirrhosis is reported by Rojers and Neuberne, for the study of this important disease. It has close resemblance to its human counterpart, both in pathology and in biochemical functions.

Subtotal pancreatectomy, treatment with alloxan and streptozotocin produces diabetic syndromes in rats. Here, madhumehari churna, Yashada bhasma and Jambuasava etc. can be studied. There are also several Mutant rat models with type I and type II diabetic conditions like BB Rat, Zucker, Koletsky, LA/N corpulent, obese / SHR, wistar Fatty, GK Rat etc.. which mimic several of human Symptoms. Many of them are useful in studying diet-induced diabetes and obesity. Like Mice, rats are also useful for studying nutrition-infection interaction, generalized malnutrition or simple nutrient deficiency and immunity.

Cancer biologists use rats as experimental animal models to study dietary effects on experimental carcinogenesis involving macro nutrients, Micro nutrients and heavy metals. Rats experimentally infected with Streptococcus mutants and then given a carcinogenic diet (Fermentable carbohydrate, mostly sucrose), produces dental caries. For many toxicity studies, rat is the ideal choice. Methyl mercury poisoning resembling Minamata disease in humans was mimicked in rats. Neonatal rats are used for studying lead diet. Rats are also used in cadmium toxicity studies, and for pesticides and aflatoxin toxicity of single and multiple ingredients of herbal preparations.

III.HAMSTER (Syrian & Chinese)

(Mesocricetus aurauts, cricetulus griseus)[9]

Hamsters entered the biomedical research field at a time when mice, rats, rabbits and guinea pigs had become fully entrenched. Even though hamster's nutritional requirements are similar to those of mice and rats, its use in human nutritional studies has been limited, due to its late domestication in the laboratory, the high percentage of cannibalism, and the difficulty in breeding . Two types of hamsters are commonly used in biomedical research–the syrian or golden hamster (Meesocricetus aurastus) and the chinese hamster (Cricetulus griseus). Hamsters are found to have higher requirement for riboflavin and pantothenic acid and this should be useful for the studies of above vitamins and its related Avalehyas and other similar Ayurvedic preparations. The animal has a high tolerance to selenium toxicity. Since selenium antagonizes fluorine and increases the incidence of dental caries in humans as well as animal, which tolerates selenium (Chapala) is likely to be very useful for studying this condition.

Chinese hamsters develop insulin deficiency syndrome spontaneously. Since it is possible to predict the development of diabetes in off springs of Chinese hamster (based on glucose Insulin ratios), this animal is a valuable model for studying the relationship between genetic and environmental factors in the development of diabetes. Hamsters are excellent models for diet induced cholelithiasis, since gallstones form quickly in this species.

The stones normally appear with in 2-4 weeks and are similar to those formed in humans. The Chinese hamster is susceptible to a variety of infectious diseases like pneumococcal pneumonia, leishmaniasis, diphtheria, tuberculosis, rabies, influenza and viral encephalitis. It can therefore be ideally used to study the interaction between nutrition, infection and immunity, a possibility not fully exploited yet. Hamsters with their cheek pouches are well suited for studies on oral cancer, including diet induced experimental carcinogenesis. A number of heavy metals including mercury, and cadmium produce teratogenic effects in hamsters. Aflatoxin when injected at 8^{th} day of gestation produces embryo death and congenital malformations in hamsters.

IV.GUINEA PIG (Cavia porcellus)

Guinea pig along with primates including humans are deficient in the enzyme galacto norlactone dehydrogenase which converts gluco norlactone to vitamin C. When maintained on vitamin c deficient diet guinea pigs develop symptoms similar to human scurvy, biochemical functions of vitamin c, particularly collagen synthesis.

Guinea pigs are also used in various nutritional studies including carbohydrate and lipid metabolism, deficiencies of protein, calories and

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Phytochemical Study

A Comparative Phytochemical Study Of *Bhanga* (Cannabis Sativa) Before And After Purification

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Abstract:

Ayurveda 'the Science of life' is a system of traditional medicine, native to Indian subcontinent and practiced in other parts of the world as alternate system of medicine. *Ayurveda* is currently followed by millions of people in India, while most of the drugs referred in *Ayurveda* are found to be safe; there are few which contains toxic constituents in them necessitating detoxification process of *'Shodhana'* prior to their use as a drug. The process of *'Shodhana'* leads to detoxification of the drug without interfering in its therapeutic properties (*Gunas)*. The study included comparative Phytochemical analysis before and after purification in different media to find out a scientific basis of these *'Shodhana'* processes.

Key words: *Bhanga , Shodhana,* Phytochemical analysis.

सारांश–

भंगा (केनाबिस सटाईवा लिन.) के पत्रों का शोधन के पश्चात पीड़ाहर, बाजीकारक, ग्रहणीहर व अनेक प्रकार की औषधियो के रुप मे प्रयोग किया जाता है। आयुर्वेदिक शास्त्रों में मान्यता है कि शोधन के पश्चात् भंगा की मादकता/विषाक्तता मे कमी होती है, परन्तु यह अभी तक वैज्ञानिक दृष्टिकोण से प्रमाणित नहीं किया गया है। इस तथ्य को ध्यान मे रखते हुए प्रस्तुत शोध प्रबन्ध मे भंगा के पत्रों का तीन शास्त्रीय विधि से शोधित व बिना शोधन वाले नमुनो के साथ तुलनात्मक फाईटोकेमिकल अध्ययन किया। एच.पी.एल.सी. व टी.एल.सी. व अन्य प्रयोगों के द्वारा सार्थक परिणाम प्राप्त हुए।

शोध से यह प्रमाणित हुआ कि शास्त्रोक्त शोधन विधियां भंगा कि मादकता/विषाक्तता को कम करने मे सार्थक हैं।

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Phytochemical Study

A Comparative Phytochemical Study Of *Bhanga* (Cannabis Sativa) Before And After Purification

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Introduction

Cannabis, worlds most commonly used illicit drug, is derived from Indian hemp plant *cannabis sativa* L. Family cannabinacae[1], a monotypic genus widely distributed and largely cultivated in temperate and tropical countries for its valuable fibre (soft hemp) and in India particularly for the narcotic purpose.

The major active component of Cannabis is delta-9-tetrahydro cannabinol (9-THC)[2]. Other important components include cannabinol and cannabidol, out of which only THC is a psychoactive constituent.

According to *Ayurveda Bhanga* is a *sthavara visha* and in *Rasa Shastra* counted it in *Upvisha* category[3], and in modern science it is a deliriant poison[4]. There are many Ayurvedic formulations that contain *Bhanga*. *Ayurveda* advocated that toxic drugs are used for therapeutic purpose only after their *Shodhan*.[5]

Shodhan procedures are said to reduce narcotic/toxic content of the drug. There is no scientific evidence for the same. In view of above, it was decided to undertake present study to find out the effect of *Shodhan* on narcotic content/toxic of the drug by Phytochemical tests.

The comparative phytochemical study was performed to identify best method for *Shodhan* for *Bhanga* by adopting different Phytochemical tests methods, instrumental and manual techniques like Ash value, Extractive value, UV Spectrometry, TLC and HPLC.

Materials and Methods

Identified **leaves of Bhanga** (Cannabis sativa L.) was procured from NIA pharmacy.

Other material: *Babbul twak (*Acacia Arabica*), Goghrit* were procured by NIA pharmacy.

Study design:

The sample was divided into four parts, one part was kept as standard while other three parts were subjected to classical *Shodhan* (Purification) techniques.

Sample $B_{1:}$ crude *Bhanga* drug

Sample $B_{2:}$ Dried Bhanga leaves obtained after washed with water and after this fried in *Ghee*. (Rastarangini 24/394-95)

Sample $B_{3:}$ Bhanga leaves were boiled in the decoction of *Babool twak* (bark of *Acacia arabica*) and leaves dried in sunlight until free from moisture. (Rastarangini 24/396-98)

Sample B_{4}: Bhanga Leaves washed with water till washing are free from turbidity and dried leaves in sunlight until free from moisture.(Ras amrit Parishith – 8, Page no.142.& AFI)

Phytochemical tests were done using following parameters.

- Total Ash
- Acid insoluble Ash
- Water soluble ash
- Alchohal soluble Extractive
- Water soluble Extractive
- TLC profile
- UV spectrometery
- HPLC

Results

The study indicated that, there are lots of differences in finding of prior and after *Shodhana*. Following Tables will show the result.

Table 1: Showing Physiocemical findings of various samples of Bhanga

Sl.No.	Parameter	Sample B_1	Sample B_2	Sample B_3	Sample B_4
1.	Total Ash	14.32%	12.68%	13.41%	12.21%
2.	Acid insoluble Ash	4.62%	3.86%	3.06%	2.51%
3.	Water soluble ash	8.33%	7.33%	9.90%	4.88%
4.	Alcohol soluble Extractive	4.10%	8.64%	8.38%	4.16%
5.	Water soluble Extractive	1.24%	1.64%	3.28%	1.02%

TLC (Thin Layer Chromatography)

Stationary phase- Silica gel 60 F254

Solvent system- n-Hexane: Diethyl ether (90:10)

Applying – 10 µl

Visualization::Short Wave (254 nm) UV

Table 2: showing the findings of before and after Shodhana in Respect of TLC Study under Short Wave (254 nm) UV

S.No.	R_f Value			
	Sample B_1	Sample B_2	Sample B_3	Sample B_4
1.	0.66	0.66	0.66	0.66
2.	0.61	0.61	0.61	0.61
3.	0.55	0.55	0.55	0.55
4.	0.23	0.23	0.23	0.23

Table 3: Showing the findings of before and after Shodhana in Respect of TLC Study on exposure to iodine vapour

S.No.	R_f Value			
	Sample B_1	Sample B_2	Sample B_3	Sample B_4
1.	0.68	0.66	0.66	0.67
2.	0.61	0.59	0.59	0.59
3.	0.19	0.18	0.17	0.15
4.	0.07	0.11	0.06	0.06

Table 4: Showing the findings of before and after Shodhana in Respect of U.V.Spectrophotometeric absorbance for methanol extract (0.040%w/v)

Sample	Maximum absorbance at wavelength(max)	Absorbance at max
Sample B1	278nm	0.637
Sample B2	278nm	0.364
Sample B3	278nm	0.55
Sample B4	278nm	0.565

HPLC

HPLC: Chromatography System

(a) Mode : LC , Schimadzu

(b) Detector: UV-254 nm-

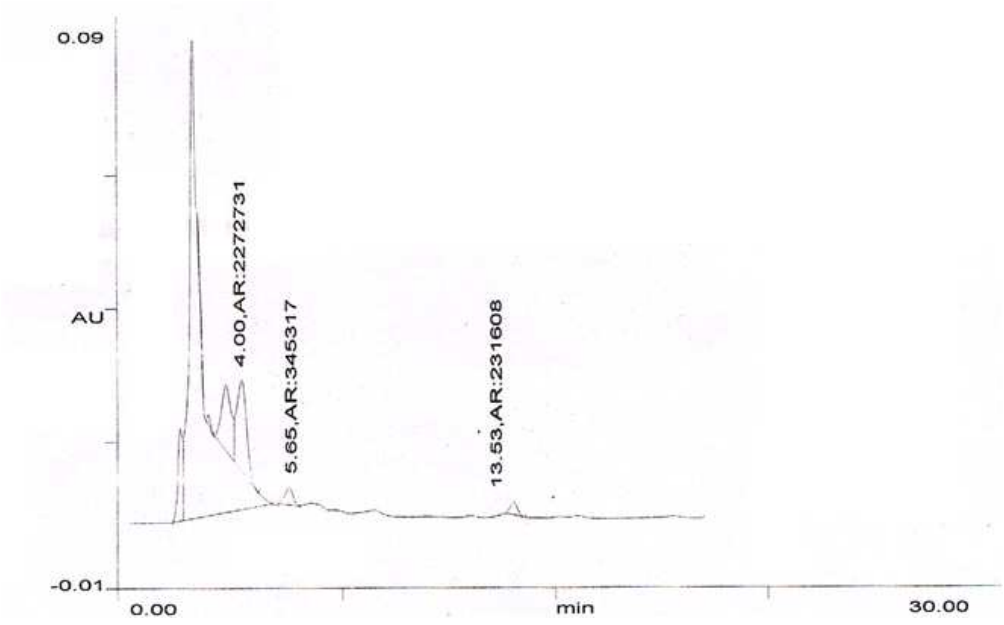
(c) Column: C18, 4.6 mm×25.0 cm, 5 m packing.

(d) Flow rate: 1.0 ml /min.

(e) Injection Size : 20 l

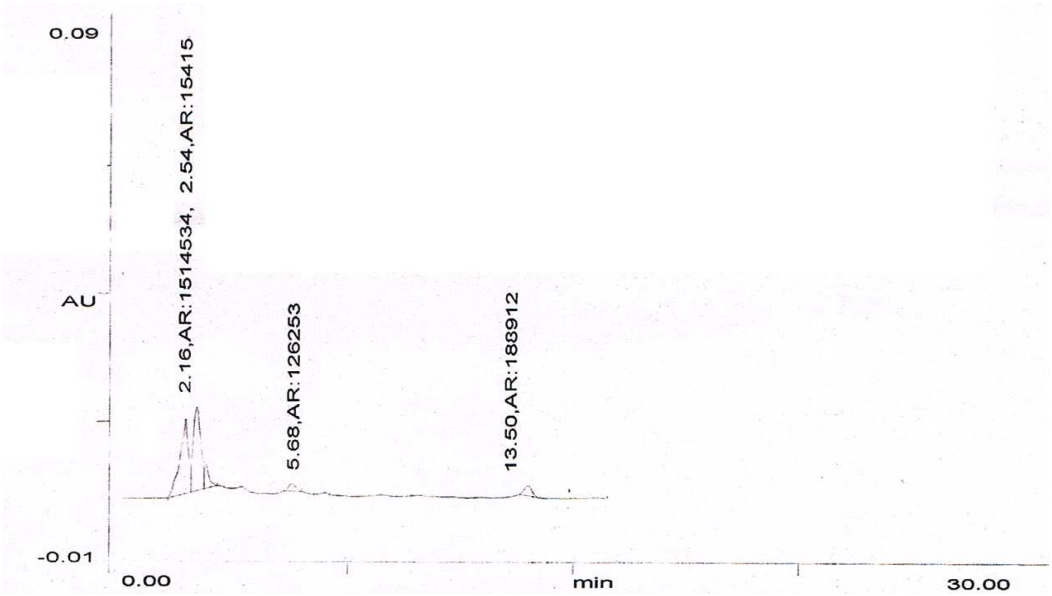
(f) Mobile phase: 50 % Methanol.

1. Result of Sample (B1)



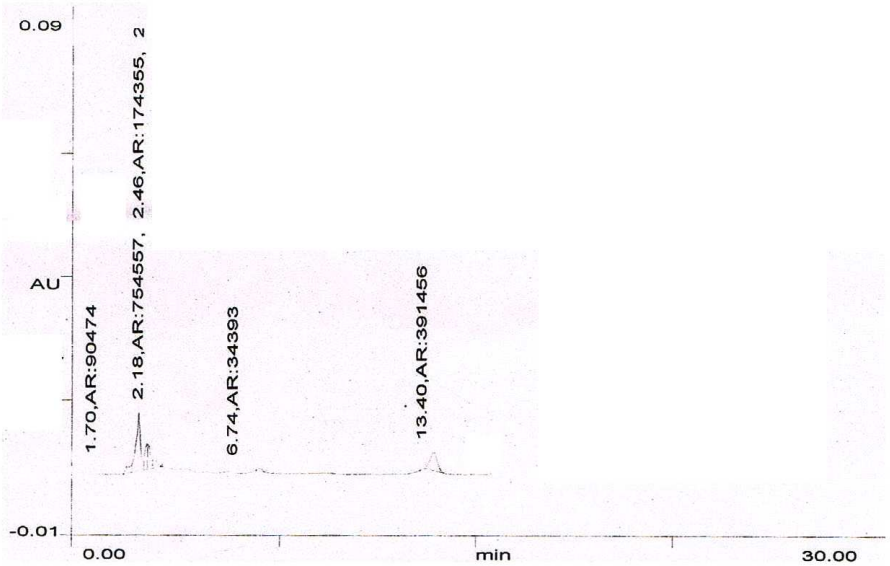
When sample B_1 (Methanolic extract) injected *H.P.L.C.* column, we observed eight major peaks with retention time (in min.) 1.81, 2.27, 2.42, 2.81, 3.43, 4.00, 5.65 and 13.53.

2. Result of Sample (B_2)



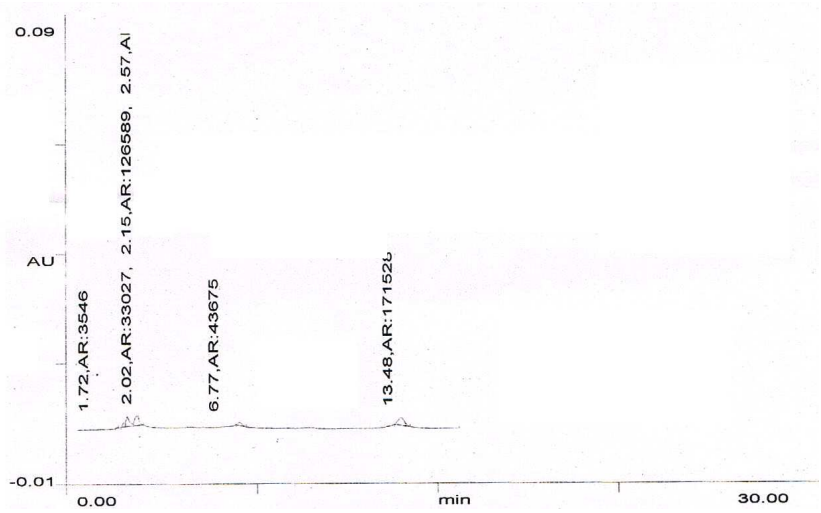
When sample B_2 (Methanolic extract) injected *H.P.L.C.* column, we observed five major peaks with retention time (in min.) 2.16, 2.54, 2.82, 5.68 and 13.50.

3. Result of Sample (B_3)



When sample B_3 (Methanolic extract) injected *H.P.L.C.* column, we observed seven major peaks were observed with retention time (in min.) 1.70, 2.18, 2.46, 2.54, 2.83, 6.74 and13.40.

4. Result of Sample (B_4)



When sample B_4 (Methanolic extract) injected *H.P.L.C.* column, we observed five major peaks were observed with retention time (in min.).2.02, 2.15, 2.57, 6.77 and 13.48.

Discussion-

Phytochemical study deals qualitative and quantitative chemical examination of *Bhanga (Cannabis sativa Linn.)* Phytochemical investigation involves the employment of a number of assays for a particular group of constituents and they evaluate a specific component from the total contents of the particular group constituents. For the phytochemical study extraction of drug sample was made by cold extraction method with help of solvents on the basis of their polarity. Three samples were prepared in NIA pharmacy using of classical *Shodhana* procedure.

Table 1 shows the finding of before and after Shodhana in respect of identity, purity and strength. The percentage of total Ash, is found to be less in sample B_4–(12.21%) and sample B_1 (Unpurified) having more Ash value (14.32). This meams after purification there is some loss of unwanted inorganic materials. In acid insoluble ash value is less in sample B_4-(2.51%) and maximum in sample B_1-(4.62%) and water soluble ash is more in sample-B_3 – (9.90%) and minimum in sample B_4-4.88%.

Higher extractive value denotes more the principles. It is revealed that sample-B_2 (purified by cow's *Ghrit*) contains higher extractive values in all the solvent systems as compare to other two samples. Therefore we can say that sample- B_2 is more chemically rich and contains more active principles than other samples.

The Chromatography of ethanol soluble extracts of all samples under short wave radiation the Rf value is same 0.66, 0.61, 0.55, 0.23 but & On exposure to iodine vapour, much variations occurred in Rf value

In HPLC, minimum five major peak points were observed in sample B2 and B4 and maximum eight major peaks in sample B1 Unpurified and sharp peak is absent in sample B4 and when compared the results we find the concentration also reduced after purification. The deviation of the finding suggests that some constituents of the *Bhanga* are removed.

Conclusion

According to *Ayurveda Bhanga* (*Cannabis sativa L.*) should be used as a theraputic drug only after it has been subjected to *Shodhana* and different *Shodhana* techniques are given for this purpose. However the present study is first demonstration of utility of shodhana technique in reducing narcotic or toxic content of *Bhanga*. Many changes after

Shodhana . were observed in the study. HPLC study indicate that after purification with water in sample B_4 maximum reduction in narcotic concentration were observed, therefore it is most suitable method, than frying in Ghee after drying sample B_2. Results of HPLC study indicates that after purification, maximum reduction in narcotic concentrations was observed in sample B4. This shows that it is the most suitable method. Other methods given in classics were also effective in reducing narcotic content of *Bhanga* leaves.

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Conceptual Study

Applied Aspect Of *Abhyang* (Ext. Oliation Therapy) In Geriatrics

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Abstract:

Abhyang is one type of external oleation therapy. Its meaning is to produce rubbing motions. It helps in delaying pre ageing symptoms like – wrinkles, whitish hair, hair loss, weak eye sight. Oxidants are the free radicals which are formed during normal metabolic reaction. Oxygen becomes superoxide by loss of one electron and causes damage to cellular and cell membrane protein and enzyme. Muscular Massage drains metabolic by product like lactic acid, CO CO_2, Superoxide, Hydrogen ions by increasing circulation. Oxidants are eliminated by improved venous return. Abhyanga should be conducted in the following seven positions. Sneh dravya reaches in 900 matra at majja dhatu . Abhyang works as Anti oxidant and delay pre-ageing symptoms.

Keword: Oleation therapy, free radical, superoxide, Muscular Massage, Anti oxidant, pre-ageing

सारांश–

अभ्यङ्ग एक प्रकार की बाह्य स्नेहन चिकित्सा है। इसका मतलब शरीर पर बाह्य घर्षण करना है। यह शरीर के वृद्धावस्था के लक्षणों जैसे झुर्रिया, सफेद बाल इत्यादि को शरीर में देरी से लाने में सहायक है। सामान्य उपापाचय क्रिया के द्वारा शरीर में आक्सिडेन्ट बनते है।

ऑक्सिजन एक इलेक्ट्रोन खोकर सुपर ऑक्साइड बनाता है, जोकि कोशिका झिल्ली, प्रोटीन एवं एन्जाइम को नुकसान पहुँचाता है। ऑक्सिडेन्ट अभ्यङ्ग द्वारा शिरा रक्त परिसंचरण में मिलकर बाहर निकल जाते है।

अभ्यङ्ग की सात अवस्थायें होती है। स्नेह द्रव्य 900 मात्रा में मज्जा धातु तक पहुँच जाता है। इस प्रकार अभ्यङ्ग एक एन्टी ऑक्सिडेन्ट तथा वृद्धावस्था के लक्षणों को दूर करने का काम करता है।

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Conceptual Study

Applied Aspect Of *Abhyang* (Ext. Oliation Therapy) In Geriatrics

Dr. Meenakshi Sharma, Dr. Gyan Prakash Sharma, Dr.C.R.Yadav, Prof. Dr. Mahendra Singh Meena

Intrduction:

Gerias means – Old age, iatrics means-treatment

Acco. to Sharangdhar Rasayan Means:

'रसायनं च तज्ज्ञेयं यत्जराव्याधिनाशनम् ।'[1]

Acco. to Sharangdhar P.K. 6/58

अभ्यंगाचरेत् नित्यम् स जराश्रमवातहा। दृष्टि प्रसाद्पुष्टी आयुः स्वप्नसुत्वक्दाढ़र्यकृत्॥ [2]

- We all know the Ayurveda is science which deals every aspect of life.
- But now – a – days adopting western culture, Fast running life style, changed dietary habits (like eating Pizza, Burger) – free Radicals (Oxidants) are produced in our body.
- Oxidants (Free radicals) damage cellular (Dhatu) level & that's result is – pre ageing symptoms like– wrinckle, whitish hair, hair loss, weak eye sight.

Definition : Abhyanga is one type of external oleation therapy. Its meaning is to produce some motions. Rubbing or stroking after applying Ghrita, Taila, etc. on the skin, helps in their absorption. Ghrita and Oil should be used for abhyanga, according to 'Prakriti', (body constitution), Satmya (suitability), Ritu (season), Desha (habitat), Dosha.[3]

Purpose of Abhyanga Therapy:

Abhyanga can be conducted to a person for two different purposes.

1. It can be conducted regularly to a person for the prevention of several diseases and for the maintenance as well as promotion of positive health.
2. It can also be conducted as a special therapy for a limited period. This special massage therapy is generally carried out for the purposes of,

(a) Rejuvenating the body to prevent and arrest the ageing process; and

(b) Curing several obstinate and otherwise incurable diseses.

Apart from the above mentioned purposes, Abhyanga therapy along with fomentation is also given before administering several categories of elimination therapies like Vamana, Virecana, Basti and Nasya.[4]

Utility:

Abhyana helps to make the body tissue more numerous, strengthen the skin texture and mate skin excellent, pacify Vata disorders, body can tolerate the effect of klesha (distress) and of physical exercise.A person should resort to Abhyanga every day if he wants to keep himself healty.In classics, Abhyanga has been mentioned as the part of Dinacarya i.e. daily routine. It is very useful before performing physical exercise.The importance of Abhyanga has been shown by the way of different metaphoricillustrations. As a pitcher or a dry leather or an axis of a wheel become strong andresistant to wear and tear by the application of oil. Similarly by the Abhyanga of oil,human body becomes strong and smooth – skinned; it becomes unsusceptible to the disease of Vata and resistant to exhaustions and exertions. The body iscompared to the tree. If the root of tree is given water regularly, then it lives for a longtime. Similarly, on the above anology, if the body of an individual is oleated properly through Abhyanga, then he lives for a long time, without any decay of disease. [5]

Benefits of Abhyanga:[6]

- Jarahar-It prevents and corrects ageing process.

The Abhyanga nourishes the Dhatus and increases their strength.

- Drsti – Prasadakara – It promotes eyesight. The diseases of the eye like Timira and other diseases, which are caused due to ageing could be prevented and cured by Abhyanga.
- Vatahara – It prevents and corrects disorders caused by affliction of the Vata.
- Abhyanga helps in the promotion and regulation of the proper function of Vata.
- Sramahara – It helps a person to overcome fatigue, because of routine hard work.
- Ayusyakara – It promotes longetivity of an individual. The functions of the vital organs and tissues are improved and life span is promoted through Abhyanga therapy.
- Svapanakara – It helps the individual to get sleep. The Abhyanga is very useful to overcome sleeplessness and other mental ailments.
- Tvak – Dardhyakara – It promotes sturdiness of an individual. Abhyanga provides a passive form of exercise even for those who cannot perform active physical exercise because of debility and old age. Even for a normal healthy person, Abhyanga provides sturdiness of the body, which keeps him healthy and happy.
- Pustikara – It helps in nurishment of the body. It nourishes all the seven Dhauts of the body.
- Klesa – Sahatva – By the sturdiness due to Abhyanga, body becomes capable to tolerate the stress and strains of life.
- Varna – Balaprada – Abhyanga improves the color of the skin and gives the strength to a person.
- Abhighat – Sahatva – In the persons who always use Abhyanga therapy, trauma cannot causes as much trouble as in other individuals.
- Kapha – Vata Nirodhana – According to Susruta Abhyanga prevents both Vata and Kapha[6]

Jarahara and Shramhara Mechanism

- Oxidants are the free radicals which are formed during normal metabolic reaction.
- Oxygen becomes superoxide by loss of one electron and causes damage to cellular and cell membrane protein and enzyme.
- Muscle contractions require ATP energy which is produced by glycolysis.
- Pyruvic Acid is produced by Glycolysis which is catabolized and changes into carbon mono-oxide, carbon dioxide & lactic acid.
- Lactic acid and CO accumulate into muscle tissue and leads to fatigue.
- Lactic acid yields High concentration of Hydrogen ions. Which affect Actine & Myosin protein.
- Hydrogen ions Stimulate pain recepters (nociceptors) in the affected area.
- Muscular Massage drains metabolic by product like lactic acid, CO CO_2, Superoxide, Hydrogen ions by increasing circulation.
- Oxidants are eliminated by improved venous return.
- Venous blood flow is measured b "Xenon washout Rate"
- "Axon referx' is occurred by massage and through this reflex, increases blood flow.
- Abhyang works as Anti oxidant and delay pre-ageing symptoms.[7]

For Best Abhyang – Following points should be in mind –

- Proper Anatomical knowledge of Marma Sandhi, Peshi.
- Pressure, direction, duration, rhythm knowledge.
- Posture and technique knowledge.

Abhyanga should be conducted in the following seven positions:

- 1. Sitting position
- 2. Supine position – lying on back
- 3. Left lateral lying position
- 4. Again supine position
- 5. Right lateral lying position
- 6. Supine position
- 7. Sitting position[8]

Effect of Abhyang on Dhatu Level:[9]

Dalhana (the commentator of Susruta) has described the effect of Abhyanga accordingto the duration of it is conducted. Period of staying of oil on different sites.

Dhatu	Period of stay
● Roma kopa (hair follicles)	300 matra
● Twacha (skin)	400 matra
● Rakta (blood)	500 matra
● Mamsa (muscles)	600 matra
● Meda (fat)	700 matra
● Asthi (bone)	800 matra
● Majja (bone marrow)	900 matra

Techniques [10]

(1) Effleurage Technique

Effleurage means to touch slightly

Types - Pain effleurage
- Forearm effleurage
- Thumb effleurage
- Fist effleurage

(2) Compression Movement

a. Kneading - Compression with thenar, hypothenar eminence and palm of hand.

b. Petrissage - Compression combined with rolling and stretching, lifting and twisting movement

(3) Percussion Movement

a. Hackling - Fingers open and straight finger
- Fingers together and curled

b. Pounding - One-hand is supinated to show the flexed fingers for the pounding.

c. Cupping - One hand is supinated to show the fingers slightly flexed and squeezed together into a cupped position.

d. Flicking - All Fingers are close together and straight to strike tissue.

(4) Friction Method

(5) Vibration Technique

(6) Lymphatic Massage

Conclusion: Thus regular Abhyang of body helps to a person for the prevention of several diseases and for the maintenance as well as promotion of positive health. Abhyang (Massage therapy rejuvenate the body to prevent and arrest the ageing process and curing several obstinate and otherwise incurable diseases. Abhyang works as Anti oxidant and delay pre-ageing symptoms.

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Conceptual Study

A Critical Learning of *Rasa Prakash Suddhakara* and It's Realistic come up

*Sudhaldev Mohapatra, **Sanjay Kumar, ***Ramesh Gupta, ****K.R.C. Reddy, *****C.B.Jha

Abstract

Rasa Shastra, one of the emerging branches of Ayurveda, was initially evolved for the purpose of alchemy. In the later phase it turned its way for therapeutic intention and continuously provides health and prosperity to the society. Since its inception *Rasa Shastra* is enriched with many treaties, books and manuscripts written and moderated from time to time by many distinguished scholars according to the need of that particular period. Among ample of literatures, Rasa Prakash Suddhakar (RPS) is one of the important text in this field during medieval period. This book reflects the transitional phase of Rasa Shastra from dhatuvada to dehavada i.e. from alchemy to therapeutic. In this literature the philosophical ideas of the subject are tried to integrate with the practical aspects of the drug manufacturing for creating realistic campaign regarding the Ayurvedic drug manufacturing in society. The text influences both the academicians as well as physicians in large extent. Keeping the comfortable coordinating nature, between philosophy and practical ability of Rasa Shastra of this text, in mind, we are trying to review and analyze it critically for the benefit of researchers and practitioners and hope the idea will be fertile.

Key words: - *Shodhana, Marana, Dhatu, Parada.*

सारांश–

रसशास्त्र की उत्पत्ति मूलतः धातुवाद के लिए उद्दिष्ट थी परन्तु वर्तमान यह आयुर्वेदीय चिकित्सा के एक मुख्य तथा अभिन्न अंग के रुप में परिदृष्ट है। समयानुसार यह शास्त्र अपने सिद्धान्त एवं चिकित्सिकीय उपयोगिता के द्वारा समाज से दुःख तथा रोगों का निराकरण करता आ रहा है। इस शास्त्र के मौलिक सिद्धान्त, चिकित्सिकीय कार्मुकता, एवं औषध निर्माण के कौशल के ऊपर आधारित अनेक ग्रन्थ अनेक विद्वानों द्वारा रचना तथा अनुवाद करके प्रकाशित किया गया है। इन समस्त ग्रन्थों में रस प्रकाश सुधाकर मध्य युग में लिखा गया एक बहुमुल्य उपयोगी ग्रन्थ है। इस ग्रन्थ में धातुवाद, देहवाद तथा चिकित्सावाद के बारे में वर्णन किया गया है। यह ग्रन्थ इस शास्त्र को धातुवाद का देहवाद में संक्रमण काल का आलेख करता है। इस ग्रन्थ में औषध निर्माण के व्यवहारिक कौशल एवं चिकित्सिकीय कार्मुकता आधुनिक भाषा तथा समय अपेक्षित विश्लेषणात्मक रुप में उजागर किया गया है।

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Conceptual Study

A Critical Learning of *Rasa Prakash Suddhakara* and It's Realistic come up

Sudhaldev Mohapatra, Sanjay Kumar, Ramesh Gupta, K.R.C. Reddy, C.B.Jha

Introduction: -

Looking into the history of Rasa Shastra it is understood that this knowledge was initiated with *parada* as chief material, for the purpose of alchemy. With the advancement of time and development of technologies, this knowledge of *parada* has been used for preparing medicines with the help of materials from metal/mineral, animal and some poisonous herbal sources. At the same time declining of classical knowledge and lost of sufficient practical textual references for alchemical techniques, this very initial motto of Rasa Shastra i.e. alchemical uniqueness lost its definition. Rasa Prakasha Suddhakar, came out in 13th Cen. AD, is a fantastic book of *Rasa Shastra*, at its transitional phase from alchemy to therapeutics. In this book the initial chapters are discussed for therapeutic use of the knowledge, and towards the end of the book alchemical processes are described briefly. In the last two chapters some few descriptions of rejuvenating and aphrodisiac medicines are available. Chapter discussion and presentation of both therapeutic theory and alchemical attitude along with their practical executions as per the need of the time are the attraction of this book. The direct description of plenty of formulations for therapeutic purpose along with the description of *divyousadhies, rasousadhies, mahousadhies and sidhousadhies* are the worth of this text.

Author's Recognition and publication of book:

Acharya Yashodhar Bhat, son of Gourbrahman Padmanabha Bhat was born on around 13th Cen. AD. at Junagarh of Saurastra area of Gujarat. He had contributed to the field of Rasa Shastra by writing many documentaries based upon practical knowledge of Ayurvedic Pharmaceutics achieved by him during manufacturing of different formulations by his own, as declared by him. He was a good academician as well as an excellent *Rasa Vaidya* (practitioner of metal/mineral medicines). He authored the Rasa Prakash suddhakar on 13th Cen. AD. The book follows the documentary style of Sodhal nighantu written by Acharya Shodhal in 12th Cen. AD with respect to herbals descriptions and formulations. The book is initially retaken and published under 'Ayurvediya Granthamala'; by Acharya Yadavji Trikamji in the year 1910 from Nirnaya Sagar Press, Mumbai. It is also published by Acharya Jeevram Kalidas in the year 1912 from Gondal Rasa sala publication shell Gujarat. It is translated with critical commentaries by Dr. Siddhinandana Mishra in the year 1983 and published from Chaukhambha Orientalia, Varanasi. [1]

Subject Matter of Rasa Prakash Suddhakar at a glance:

- This book comprises 13 chapters. The book begins with the description of 18 *samskars* of *parada* along with its *dosas*. The book ventures an ideal way of classification of *Rasa dravyas* for first time, like *dhatu varga*, *maharasa varga*, *sadharan rasa varga & ratna varga*. Here *rajaverta* is considered under *maharasa varga* in place of *chapala* which is commonly considered.
- *Maharasa* is described first in a single chapter followed by *uparasa* and *sadharana rasa* combining in a single and separate chapter. Also description of all the *suddha lauha, puti lauha* and *mishra lauha* are given in one place
- The description of *parada bandha, samskaras* (1st chapter) and *parada bhasma* along with number of formulations (8th & 9th chapter) and their therapeutic indications indicates this book to be an adjunction of alchemical and therapeutic era which begins the therapeutic state of approach.
- Description of different tools, instruments and heating devices are given at the tail order chapters of the literature enriching the pharmaceutical approach of Ayurvedic medicines particularly *rasoushadhies*.

- Description of alchemical processes towards the end of the texts, in 11th chapter indicates the less emphasis of these processes and gradual withdrawing from the field of Rasa Shastra which happens in later on literatures.
- 12th and 13th chapter are richer with the aphrodisiac formulations, which hints the social regimen and facilitates healthy and prestigious life of the particular period. [2]

Analysis of *Dehavada* and *Dhatuvada* in Rasa Prakash Suddhakar:

Though the book consists of both alchemical and therapeutical descriptions but the therapeutic deliberations are dominating over alchemy. Description of rasa vargas and dhatu vargas along with their pharmaceutical processing and therapeutic indications shows the therapeutical approach of the text in the leading way. Specific descriptions of around 100 formulations of parada for different therapeutic purposes strengthen the *dehavada* initiatives. Depiction of many aphrodisiac formulations in 12th and 13th chapter shows the demand of the society, regarding bodily vigor which is reflected in the text and the *dehavada* idea of the author as well as description of *divyaousadhies, rasaousadhies, mahaosadhies* and *siddhaosadhies* are emphasizes the salutary motto of the book.

The author has very practical opinion that first 08 *samskaras* are meant for *dehakarma* (for treatment) and last 10 *samskaras* should follows for *dhatukarma* (alchemical purpose). [3]

The description of 18 *samskaras* followed by *parada bandha* justifies the alchemy thought was there in the society, which is reflected in the text. But the alchemical effect over the book and descriptions of alchemical processing; like preparation of gold, silver and different gems were seems gloomy, as these are described in later part of the book having no affluence in preparation technique and language also.

Chapter Discussion

1st Chapter.

- First chapter starts with worshiping of Lord Siva and for *parada*. Concepts of *parada* creation, description of 18 *samskaras*, along with their conclusive features in subjective evidences are found in some cases like *mardana, murchhana, utthapana* etc. 05 *dosas* of *parada* and their subjective effect (*visa, vanhi, mala, mada* and *darpa*) are found in this text. In *sapta kancuki dosa* author included *lohaja* and *tamraja* along with other dosas of *sapta kanchuki* [4]. A striking and very practical definition of *bida* is given in this chapter.
- In the context of 17th *samskaras* i.e. *vedha* (alchemical transformation), 05 types of *vedha* are described like *lepa, kshepa, kunta, dhuma* and *sabda*. For *garbhadruti, ghosakristi tamra* is used & some peculiar type of *yantra* (devices) like *istika yantra* for *ranjana samskara* & *jala yantra* for *charana samskara* are described.
- There is very important direction given regarding *samskara*, that the body must be subjected to *kshetrikarana* (purificatory measures possible by panchakarma therapy) before intake of *samskrita parada* for better result. The most practical approach of this chapter is that, it is also advocated that initial 08 *samskara* is meant for *deha karma* (treatment and rejuvenation purpose) and later 10 *samskara* is meant for both *deha* and *loha karma* (alchemical purpose). [3]

2nd Chapter

- In Rasa Prakash Sudhakar only 04 types of *rasa bandhas* like *jalauka. khota, paata* and *bhasma* are described in contrast to 25 or 26 types of *bandhas* described in most of the literatures [5]. With general features of *rasa bandha* 04 types of *sadhana* (associated materials) like *mulika* (herbals), *mani* (gems), *suvarna* (gold) and *putiloha* (lower metals) are described. The detailed description of *bandha* is not found.
- *Abhraka druti bandha, hema druti bandha, vajra druti bandha* are described for alchemical purposes but the process of *druti* is hardly found.

3rd Chapter

- Immediate after a short description of *rasa bandha* in 2nd chapter the author described detailing of *rasa bhasma* according to color variations (for first time) like *sweta* (white), *krishna* (black), *peeta* (yellow) and *rakta* (red) [6]. Very practical approach for extraction of *parada* from *hingula* by using damaru yantra is described and for this purpose a special tight joint sealing

procedure is adopted with a paste prepared by mixing *loha churna, khatika, saindhava* with milk, because vapor of *hingula* as well as parada is toxic to inhale.

- Pharmaceutical procedures for *sadguna gandhaka jarana, rasa potali, rasa parpati* are described. Firstly different medicinal preparations of *parada* with involvement of fire are described here in the name of various colored *parada bhasma* like

  A) *Sweta Bhasma* (Rasakarpura)

  B) *Rakta Bhasma* (Udayabhaskara Rasa)

  C) *Krishna Bhasma* (one procedure is given by roasting Kajjali)

  D) *Manikya color* (Rasa Manikya)

  E) *Pita Bhasma*

- Preparation of *rasakarpura* in *damaru yantra*, preparation of *rasa potali, rasa parpati* is the therapeutical move of the text. In 3rd chapter *rasamanikya* is prepared with *parada* and *naga* in *baluka yantra.*

4th Chapter

- This chapter deals with description of metals, their types, pharmaceutical processing techniques along with their properties and use. The metals are classified like *suddha loha* (swarna, rajata, tamra, loha), *puti loha* (naga, vanga) and *mishra loha* (kamsya, pitala and varta loha).
- Each *dhatu* is described in possible details with respect to their practical and therapeutical utility. The author has advocated two types of *swarna* like *rasaja* and *khanija* which seems more practical in comparison to other texts, where 05 types are found [7].
- In this chapter 03 types of *loha* (kanta, tikshna and munda) and again only 04 types of *kanta loha* is explained. *Rajata* and *tamra* are said to be purified by roasting with *sisa* (naga).
- *Kamsya* is prepared in the laboratory with mixing of *tamra* and *vanga* (4:1) in presence of intense fire. The author specifically advised to avoid for keeping the sour and ghee preparations in *kamsya* (bronze) container. *Shodhana, marana &* use of *kamsya a*s well as *vertaloha* is described in this chapter.
- *Vertaloha* is prepared by mixing four materials like *loha, kamsya, tamra* and *pittala.* Other texts have opinion that *vartaloha* is prepared by mixing five materials.

5th Chapter

- *Abhraka, rasaka, tapya, vaikranta, vimala, sasyaka, shilajatu, rajavarta* are counted under the heading of *maharasa.*
- 04 types of *abhraka*, its *shodhana*, 03 types of *marana, satva* extraction and *satva marana* are described. It is said that *vajrabhraka* is the best type and remained undestroyed by application of fire. The book explains how *pinaka, naga* and *manduka* types of *abhraka* can be identified and also about their *dosa* (hazardous effect) on body along with acceptable feature for *vajrabhraka* and it's quality.
- Different types of *abhraka marana*, preparation of *abhraka satva*, it's *marana* and utility of *abhraka bhasma* and *abhrka satva bhasma* are described along with highly toxic effect of *chandrikayukta* (shinning) *abhraka bhasma.* No any description of *dhanyabhraka* is found in this text. *Amritakaran* and *lohitikarna of abhraka bhasma* are also not found in this book. *Abhraka satva bhasma* is the best among all *rasayana* and act like nectar.
- *Rajavarta* is given importance by including it into the *maharasa varga* and describing just after the description of *abhraka*; its features, *shodhana, marana, satvapatana* and properties are found. *Khadira kastha* fire is used for *satvapatana.*
- It is described that *karbura* is the 8th types of *vaikranta*. Acceptable feature of *vaikranta*, its *shodhana* in *kullotha kwath* by *swedana* process and marana by mixing with gandhaka and nimbu rasa is explained. It is said that *vaikranta* is having the quality like diamond [8]; its *satvapatana* and use are also described.
- *Sasyaka* is said to be the vomitus material of *garuda* (a bird) after in taking of *visa* (poison) and *amrita* (nectar) simultaneously. It is mostly collected from Maruta Mountain. *Shodhana, marana, satwapatana* and uses are described. *Satwa* is considered as *tamrarupa*. *Sasyaka bhasma* is also called *mayuratuttha bhasma.* In the context of *sasyaka, bhunaga satwa mudrika* and its alchemical use is described.

- Three types of *vimala* like *hema, roupya* and *kamsya vimala* are described. *Vasa swarasa* is used for *shodhana, gandhaka* as well as nimbu rasa are used for *marana*, dose of *vimala satwa* is advised 1 *valla* (3 rati). *Vimala* is specifically indicated for children [9].
- *Sasatva gomutragandhi shilajatu* is considered the best type. Availability and evolution of *shilajatu* in Himalayan valley and different types are described according to the place, where corresponding metal is available like *swarna shilajatu, rajata shilajatu, tamra shilajatu* etc. Criteria for assessment of best quality *shilajatu*, its shodhana and therapeutic property are found.
- In this context, *shilajatu marana* is also described by using *manahshila* and firing in 08 cow dung cakes. In this chapter *rasaka* is described with respect to it's types, shodhana and *satvapatana*. *Marana* of *rasaka* is not found and human urine is used for *shodhana* of *rasaka* in this book. *Tamra prabha* (luster like copper) *satva* for *makshika* and *sisa* (naga) like *satva* for *rasaka* is described. Types, *shodhana, marana and satvapatana* of *makshika* are described.

6th Chapter

- In 6th chapter different pharmaceutical processes, properties, types, therapeutic uses of 08 *uparasa* are described. These are *haritala, tubari, gandhaka, kamkustha, manahshila, gairika, anjana,* and *kasisa*.
- Between *dala* and *ashma* type *haritala dala* type is best and used for therapeutic purposes. *Kushmanda swarasa, ksharodaka or churnodaka* is used for *shodhana* of *haritala through* the *swedana* process. *Marana* of *haritala* is not found in this text. In *satwapatana* different reducing agents like *tankana, ghee, kulottha kwatha* etc. are used and the process is performed in *valuka yantra* for 12 *yama, satwa* is collected at neck.
- In this chapter *peetika* and *phulika* types of *tuvari* is said to collect from the mines of Saurastra. It was used for color stabilizing agent in clothes. This can be made *shodhana* by impregnating into *kanjee* (rice gruel) for three days. *Phulika* type is considered best for preparing *loha bhasma*. It is used for different therapeutic proposes like *netra roga, vrana* etc. It is also used for alchemical process (parada jarana) for preparing *vida*.
- *Shyamangi manahshila* is best in comparison to *kanaviraka* and *khandakshya*. It can be made *shodhita* with either *agastyapatra rasa* or *adraka rasa* through the process of *bhavana* for 7 times. Therapeutic properties and *satwapatana* are described. For *satwapatana, dravaka gana* drugs are taken and process is done in *kosthi*.
- Five types of *anjana* are described like *souveeranjana, rasanjana, srotanjana, puspanjana* and *neelanjana*. All types of *anjana* are said to become *shodhita* in bhringaraja rasa. Like *manahshila, satwa* of all types *anjana* can be achieved. Acceptable features and properties of all types of *anjana* are also described.
- Four types of *gandhaka*, their significances and *shodhana* of *gandhaka* along with it's properties and *gandhaka tailapatana* are described in 6th chapter.
- *Sweta gandhaka* is measured like *khatika* and is used for smearing in *lohapatra* during the preparation of *loha bhasma*. *Peeta gandhaka* otherwise known as *aamlasara gandhaka* is used for medicinal purposes. *Rakta* and *krishna* types are rare and mainly used for alchemical purposes[10]. *Shodhana* of *gandhaka* is described in an underground cavity by adopting *swedana* principle.
- Method of preparation of a typical pharmaceutical preparation out of *gandhaka* like *gandhaka taila patana* and its application in different diseases as well as for improving sexual power is described. Extensive use of *gandhaka* in various skin diseases is described after formulating it with addition of certain other materials like *maricha, tripahala*, etc. and following certain procedural techniques like body message, drinking of *til taila* etc.
- *Nalika* and *renuka* types of *kankustha* available in Himalayan region are described. Latex of gambose tree, faecal matter of newly born elephant baby, umbilical cord of horse baby are also consider as *kankustha* by some people. However *kankustha* collected from latex of gambose tree are consider best for therapeutic purposes. *Kankustha* is indicated for causing purgation in 1 *yava* dose. Also in case of complication while taking

kankustha remedy is described i.e. to take decoction of babul with *tankana* and fried *jeera churna*.

- *Balu kasisa* and *puspa kasisa* are described as the types of *kasisa*. Bhringaraj rasa is used for *shodhana* and like *sphatikaa, satwapatana* process of *kasisa* is performed. Many therapeutic use of *suddha kasisa* is described with *loha bhasma* but *kasisa bhasma* preparation is not found.
- Two types of *gairika*, its *shodhana* process in milk by *bhavana* process are described along with the pharmacological properties and therapeutic indications. *Swarna gairika* is considered best for medicinal use in comparison to *pasana gairika*.
- In 6th chapter under the heading of *sadharana rasa, navasadara, varatika, agnijara, girisindura, hingula* and *mridarashringa* are considered. *Navasadar* is used for melting metals and helps the metals to get *jarita* in *parada*. 03 types of *varitika* are classified according to the weight and its *bhasma* is prescribed to use in different *sula* (colic pain) for therapeutic purpose, also for *parada jarana* as alchemical use.
- *Agnijara*, an animal product is described to potentiate parada and also is used for treating *dhanurvata* (tetanus). During the description of *girisindura*, the author described only its quality and availability no any processing is found. It is called red colour parada. 03 types of *Hingula* i.e. *sukatunda, hansapada* and *charmara*; it's *shodhana* and properties are described. Features and quality of *mridarashringa* is described in the last of 6th chapter. It is said that it is available in Gujarat and is yellow in colour having leaflets.

7th Chapter

- In 7th chapter the author has described 09 *ratnas* namely *manikya* (Ruby), *mukta* (Pearl), *pravala* (Coral), *tarkshya* (Emerald), *pusparag* (Topaz), *heera* (Diamond), *neelam* (Sapphire), *gomeda* (Zircon), and *vaidurya* (Cat's Eye).
- *Ratnas* are described with respect to their, name, types, features and therapeutic use as well as astrological properties in brief. The rejectable features and pharmaceutical processing's also described for *ratnas*.
- *Padmaraga* type of *manikya* having features like blood red or lotus like colour, hard, unctuous, clean, and heavy, having luster and symmetry in configuration is considered superior in comparison to *neelagandhi* type. 08 types of *dosas* (rejectable, objective features) are also described. It is considered best aphrodisiac and used for planet Sun.
- *Mukta* which gives pleasure to mind just at seeing it, round, watery clear, unctuous, heavy is measured the best type of pearl. Curved, having different colour, and opposite to above features *mukta* is rejected for all purpose. *Mukta bhasma* and *mukta pisti* is indicated for various diseases like *kasa, swasa, kshaya*, and *agnimandya*.
- Colour like *pakwa bimbi*, thick, without any porosity, cylindrical in shape are the features of best *pravala*. Along with the features for rejection of *pravala* is also clarified. It is indicated for various diseases like *kasa, swasa, kshya*, and eye diseases.
- *Panna* having lusture, green grass like colour, bigger in size is the best type. *Panna bhasma* and *pisti* is indicated for different diseases like *kasa, swasa, kshaya* and *sotha*. It is use for planet Budha. Features for rejection of *panna* are also clarified.
- Hard, yellow in colour (like flower kaner), thick, and pleasant on touch are the features of best *Pokhraj*. Rejection features for *pokhraj* are also spelled out. It is used for planet Guru. Therapeutically it is used for *kustha, daha, mutrakrichra* etc.
- *Vajra* is described extensively about its types, acceptable features, properties as well as shodhana and marana like pharmaceutical processing. *Punvajra* having features like 08 edges, 06 angles, 08 faces, presented with luster and with rain bow colour is considered the best quality above *stree* and *napumsaka* type. *Kulloth kwatha* is used for *shodhana* of *vajra* through the process of *swedana* in *dolayantra*. 03 techniques of *marana* is described by using different associates drugs like bedbug blood, *manahshila, kulloth kwatha, parada, kasamarda rasa*, cow's urine, earth worm etc. *Vajra rasayana, vajra pottali rasayana* like formulations containing *vajra bhasma* are described.

- *Indraneela* type of *neelam* presenting with symmetric deep blue colour, unctuous, heavy, clean and more glazing at the center is accepted for all purpose. Along with the rejection features for *neelam* are also spelled out. It is use for planet *Sani*. Therapeutically it is *vrisya* and used for *pandu, arsha* etc.
- *Gomeda* is declared best among all *ratnas*. It looks like fat of cow and colour is like cow's urine, luster and without any leaflets is the best variety. It is used for *pandu, kshaya* etc.Astronomically it is used for *Rahu* planet.
- The *vaidurya* which is very symmetrically coloured with black and white, heavy, lustured and presented with 03 clear lines like sacred thread and with white lines is considered the best types. It is used for *ketu* planet. It pacifies *raktapitta*. Rejection features for this gem is also described.
- At the end of the chapter common marana for 6 *ratnas* other than *vajra, mukta* and *pravala* are advised along with specific drug for shodhana of each ratna are described with the *dosas* of *ratna* like *gharsha, vindu, rekha, trasha*. Description of *ratnadruti* and its features are the peculiarity of this text.
- In the context of *ratna druti*, first *pottali paka* procedure is adopted then it is continuously washed with *amla* drugs to get the *druti*. Druti is used for *deha vedha* and *loha vedha*. *Abhraka druti* is considered the most difficult to chivied among all the drutis of *dhatu* and *ratna* [11].

8th & 9th Chapter

- In 8th chapter 100 *Rasousadhies* are compiled which includes, *kharaliya, potali* and *parpati* but no any *kupipakva* medicine is placed in this chapter.
- Medicines described in this chapter are classified according to the diseases in which it is going to be used like *Jwara* (11 preparations), *Atisara* & *Samgrahani* (10 preparations), *Pandu* (04), *Yakshma/Kshaya* (13), *Sannipata* (9), *Kasa/ Swasa* (5), *Vata roga* (5), for *virechana* (2), *Agnimandya/Ajeerna/Visuchika* (4), *Kustha* (8), *Prameha* (6), *Udara roga* (2), *Arsha* (1), *Shula* (1), *Kaphaja vyadhi (2), Meda roga (2) , Pittaja roga (1) Sarva roga (4), Krimi (2), Napumsakata (2), Vata-kaphaja (1), Dehalohabedha (1), Ashmari (2), Apasmara/unmada (2)*
- In the name of *Rajamriganka rasa* there are two formulations both are used for *yakshma*
- In 9th chapter 64 *Divya Ousadhies* (which are beneficial for *Rasa bandha*), 68 *Rasousadhies* (used for *parada jarana, marana, niyamana*), 68 *Mahousdhies* (Used for *suta bandha & marana*) 68 *Sidha Ousadhies* (used for *deha & loha sidhi*). These drugs are described in very similar way as described by Acharya Sodhal and Acharya Somadeva.

10th Chapter:

- In this chapter author has told 39 types of *yantra* only by name like *dola yantra, palbhali yantra, garbha yantra*, etc.but on counting in translating way of original verse it is found 40 in number. Some peculiar types of *yantra* described by this text are hardly found in other texts these are *nigada yantra, guhya yantra, gandhapistika yantra, deva yantra and ghanika yantra*. The most of the yantras described in this text are seems to be taken from Rasendra chudamani written by Acharya Somadeva in 12th Cen. AD.
- There are different types of *musa* described according to different types of soil used and also according to various uses.
- There are 06 synonyms of *musa* like *musa, kumudika, kosthika, karahatika, patinee and vahnimitra* are described. A total of 15 types of *musa* and their designing, constituent materials, along with their therapeutic and alchemical use are described.
- 15 types of *musa* are *yoga musa, garamusa, varamusa, varnamusa, rupyamusa, vidamusa, vajramusa, vrintakamusa, gostanimusa, mallamusa, pakwamusa, mahamusa, manjumusa, garbhamusa* and *musalamusa*.
- Some *musa* are used for alchemy purpose like *rupya musa, varna musa,* and *musala musa,* some muasa are designed for therapeutic purpose like *vrintaka musa, gostani musa, mahamusa* and *malla musa*.
- The author has described 04 types of *kosthi* like *Angara kosthi, Patala kosthi, Gara kosthi* and *Teeryak pradhamana kosthi* along with their designing and use.

- *Angara kosthi* is the biggest one and advocated for *satvapatana* of the material having high melting point where as *Patal kosthi*, *Teeryak pradhamana kosthi* are advocated for *satvapatana* of materials of low melting point. The author has told to use *gara kosthi* for *satvapatana* but not advocated for which type of material.
- Different types of *puta* are described at the end of this chapter like *mahaputa, gajaputa, varahaputa, kukkutaputa, kapotaputa, gorbaraputa, mridbhandaputa, valukaputa, bhudharaputa, lavakaputa* along with the synonyms of *chhagana* i.e. *vanyopala*.

Table No.- I

Sl. No.	Name of Puta	Designing and Use
1	Maha puta	A cavity having dwihasta (length of 02 hand i.e. nearly equal to 92 cm) measurement for all side and depth, able to contain 1500 cow dung cake, 1000 below the earthen casserole and 500 above the casserole is known as maha puta.
2	Gaja puta	A cavity having rajahasta (length of hand of king i.e. nearly equal to 57cm) measurement for all side and depth, able to contain 1000 cow dung cake, is known as gaja puta.
3	Varaha puta	A cavity having 01 aratni (nearly equal to 45 cm) measurement for all side and depth is known as varaha puta here numbers of cow dung cakes to be used are not described.
4	Kukkuta puta.	A cavity having vitasti dwaya measurement for all side and depth is known as kukkuta puta.
5	Kapota puta	A cavity where 08 number of cow dung cakes are used for firing is known as kapota puta.
6	Gobara puta	A cavity in which tusa, gomay (dry) are used as fuel for firing the samputa containing materials is known as gobara puta. About 02 manika (800 g) dry cow dung is used. This puta is used for rasa bhasma
7	Mridbhanda puta	This puta entirely arranged in a bigger earthen casserole containing fine powder of soil, above which samputa is kept and the fire is given from bellow the earthen casserole.
8	Baluka puta	In this type of puta material is heated with hot sand.
9	Bhudhara puta	In bhudhara puta musa is kept inside the underground cavity and only 08 cow dung cakes are used for firing.
10	Lavaka puta	It is used for preparing bhasma of soft material. Here only 1 pala i.e. 50 g of tusa or gomay (dry) are used as fuel for firing the samputa.

11th Chapter:

- In 11th chapter, mostly alchemical processing were given. In this chapter the conversion of different lower materials like *swarna makshika, abhraka, naga, vanga, tamra* etc. with the use of mercury/ cinnabar and some arsenical compounds like *manahshila, haritala* along with the utilization of some herbal juices like *lakucha swarasa, kumari swarasa* etc. Gold and silver were prepared.
- In some processing for preparation of gold, gold itself is taken as an ingredient for achieving the gold of better quality i.e. more carats. 20 methods of gold processing's and 17 methods for preparation of *rajata* (silver) are described.

- Like gold and silver some methodologies for the preparation of artificial coral and artificial pearl are also detailed in this chapter.

12th and 13th chapter:

- In 12th and 13th chapter mostly rejuvenating and sexual health promoting medicines are described. *Vajeekar gutika, vajeekar leha, veeryastambhakar vatika, sukrastambhakar vatika, sukrastambhaka churna* etc. described in these chapters are very effective and popular medicines in today's era also.
- Use of *sarala niryasa* (gandhaviroja) for *veerya stambhak* is the peculiarity of this literature. For the preparation of different aphrodisiac formulations the author has used the narcotic drugs like ahiphena, bhanga etc...
- At the end of 13th chapter, the author has described about his family, nativity, and religion also pleasantly described the status of his family for social service as Vaidya.

Practical Aspects of Rasa Prakasha Suddhakar:

- The book is aimed to overcome the controversies regarding both in academics and pharmaceutical point of view.
- Advocacy of initial 08 *samskars* for the therapeutic purposes and their implementation is very practical approach of the book, in current era.
- Descriptions of ample of medicines used virtually in clinical practice till now, with travelling 100s of years are the significance of this text like *ichhabhedi rasa, anandabhairava vati, grahanikapata rasa, ramavana rasa* etc.
- Breakthrough of concept of one of the highly marketed dosage form I.e. *kupipakwa rasa*, by using *baluka yantra* is the contribution of this text in the name of *udaya bhaskar rasa* [12] and *bhaskarodaya rasa* (87th preparation out of 100 formulations, here *baluka yantra* is used but copper casseroles are used for holding the medicines need to be fired).
- The author is tried his best to describe the pharmaceutical techniques for different materials of rasa kingdom by using maximum available and a minimum number of associated drugs.
- The author was very much aware about the toxic effect of mercury vapor hence while preparing *hingulottha parada* he has advised a special strong joint sealing procedure with some specific materials like *louha churna*, milk etc. [13]
- The most practical aspects of the book is that, the book transits the alchemical practice, which perhaps the most theoretical part of the subject Rasa shastra in today's timeline, to therapeutical implementation of the subject (which is the base of today's Ayurveda).

Possible draw backs of the book:

- There is no such chapter named *paribhasa* which could define the technical terms used in the text for better understanding of this literature.
- Descriptions of tools and devices (after the description of manufacturing methods for different materials) towards the last of the text.
- Descriptions of different types of *yantras* only by their names. Descriptions neither regarding the designing nor about any specific use have been described.
- Important pharmaceutical processing for abhraka like *dhanyabhraka, amritikarana* and *lohitikarana* are not found in this text.

Discussion:

The literature begins with the 18 *samskara* of *parada* followed by the descriptions of different materials of Rasa shastra and their classification along with their pharmaceutical processing and detailed practical therapeutic use. This indicates about the thought of respected author to with hold the therapeutic value of the subject with upper hand and continuing with alchemical processing, which are still in practice, may be by some of the alchemical persons. Because author himself clear that the initial 08 *samskars* of parada are meant for physicians whereas later methods should be executed for the conversion of lower metal into higher metals [14] which is also supported by the author of Rasa Ratna Samucchhaya in the same era and by Ayurveda Prakash in 17th Cen.AD [15]. In a close observation it is revealed that,

in succeeding of the chapters, dominance of the therapeutic idiom is seen over alchemical thought. And towards the end of the book description of *rasayana* and *vajikarana* medicines justifies the ultimate transitional attitude of the text from alchemical thought to therapeutic implementation.

Detailing of different types of rasa bhasma in 3rd chapter and different types of dosage forms like *kharaliya, parapati* and *pottali rasayana* in 8th chapters are having very high altitude of therapeutics. In this very literature, the medicines are described with detail, like the methods of manufacturing and their therapeutic indications.

Different elements of rasa kingdom like *maharasa, uparasa, sadharanarasa, dhatu varga* etc. are also described with respect to their convenient and easier therapeutic process technology and broad spectrum medical use.

The book has advocated the use of Ahiphena, Bhanga like narcotic drugs for the use of Ayurveda dosage form (preparations of *rasayana* and *vajikara ousadhi*)

Description of different types of tools and devices for the manufacturing of medicines like *puta, musa, yantras* in 10th chapter is reflecting the trend of literature writing of that era as in Rasa ratna samucchhaya, placed towards the last of the book.

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Conceptual Study

Critical study of *Bhaisajya Kala* (Time of drug administration) in *Ayurveda*

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Abstract:

According to *Ayurveda* there are two types of *Kala- Nityaga* and *Avasthika*. Bhaisajya *Kala* is the type of *Avasthika Kala*, meant for the proper time of drug-administration.This is an important principle to be considered while treating a disease. *Bhaisajya Kala* is mainly explained in relation with *Bala* of *Roga*, *Rogi*, particular *Dosha*, *Dooshya*, and various other factors. The proper knowledge of *Agni*, food and drug interaction is helpful to attain a quick and sustainable relief to the patient. In *Chikitsa*, Approach of *Bhaisajya Kala* tends to reduce the side effects and increases the bio-availability of the drug.To highlight its imperial role in *Chikitsa*, there is an immense need to analyze this concept.

The relation of *Bhesaja* and *Kala* is explored in various shades by the ancient *Acharya*.

The number of *Bhaisajya Kala* varies according to different *Acharya*. This article is a collective effort to concord the opinions of different *Acharya*.

Key words- *Bhaisajya Kala, Bhesaja*, food /drug interaction, *Kala*.

सारांश:

आयुर्वेद मतानुसार काल के दो भेद होते है- नित्यग और आवस्थिक। भैषज्य काल एक प्रकार का आवस्थिक काल है, जिसका तात्पर्य उचित भैषज व्यवस्था से है। किसी रोग की चिकित्सा में यह एक महत्वपूर्ण कारक है। भैषज्य काल मुख्य रुप से रोग एव रोगी के बल, सम्बन्धित दोष, दुष्य तथा अनेक अन्य कारको के परस्पर सम्बन्धों की व्याख्या करता है। रोगी की विश्वसनीय चिकित्सा और शीघ्र लाभ के लिए, अग्नि, भोजन और भैषज के आपसी सम्बन्धो का उचित ज्ञान आवश्यक होता है। रोगो की चिकित्सा में भैषज्य काल की पहुंच भैषज के उपद्रवो को कम करने में एवं शरीर के लिए भैषज की जैव उपलब्धता को बढाने में सहायक होती है। चिकित्सा में इसकी अत्युत्तम भूमिका को चिन्हांकित करने के लिए उपरोक्त विषय का विश्लेषण करना बेहद जरुरी है।

प्राचीन आचार्यों द्वारा भैषज और काल का आपसी सम्बन्ध सूक्ष्म रुप से अन्वेषित किया गया है। भैषज्य काल की संख्या के सम्बन्ध में विभिन्न आचार्यों के भिन्न-भिन्न मत हैं। प्रस्तुत लेख भैषज्य काल के सम्बन्ध में विभिन्न आचार्यो के मतों में सामंजस्य स्थापित करने का समग्र प्रयास हैं।

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Conceptual Study

Critical study of *Bhaisajya Kala* (Time of drug administration) in *Ayurveda*

Dr. Subhash Chandra, Dr. Chanchala Chouhan, Dr. Om Prakash Dadhich

Introduction

Ayurveda, the most ancient medical science, has great concern regarding the health as well as the ailments of all the creatures, was preached in the form of *Trisutra*[1], namely, *Hetu* (causative factor), *Linga* (signs and symptoms), and *Aushadha* (treatment). The last part of this trio has been given equal importance as the former two.

Aushadha Sutra hides many more concepts in its womb as a part of *Chikitsa* (Treatment). *Charaka* says that the medicine, which is opposite of *Dosha*, *Dooshya*, and *Nidana* (causative factor) or to all of the three, will undoubtedly cure the disorder, irrespective of specific features either mentioned or not mentioned. The above statement is followed by another, which says "while treating a disease success can be achieved only when there is proper combination of *Desha* (region), *Kala* (time), *Pramana* (dose), *Satmya* (wholesomeness), *Asatmya* (unwholesomeness), *Pathya* (useful), and *Apathya* (harmful)[2]. Among these, most important factors, *Kala* acquires second position, which reflects the importance of *Kala* in *Chikitsa*. *Kala* is a unique and specific causative factor of all type of effects, at the same time, it is unavoidable. It is described as "*Anayathasiddha Nimitta Karana"*, means no action is possible without the causative association of *Kala*.

The relation of *Bhesaja* and *Kala* is explored in various shades by the ancient *Acharya*.*Bhaisajya Kala* exemplifies the relevance of concept of *Kala* in the management of diseases. *Acharya Vagbhata* has stated that "*Kalo Bhaisajya Yoga Kruta"*[3](A. S. Su. 1/45), which means *Kala* fulfills the aim of administration of *Bhesaja*. In accordance, *Acharya Charaka* says that *Bhesaja* given at appropriate *Kala* is more efficacious than one given at inappropriate *Kala*. Optimum digestion and metabolism in a healthy individual is attributed to *Agni*.The rate of metabolism of *Bhesaja* by *Agni* is affected by factors - food, type of *Bhesaja* used, time of administration and *Sariravastha*. The stalwarts of *Ayurveda* have designed the *Bhaisajya Kala*, The sequence of food-*Bhesaja*, by the choice of appropriate *Bhaisajya Kala* could be decided by a physician according to the *Agni-Bhesaja* interaction is needed in a specific disease and diseased. The activity of a *Bhesaja*, anticipated by a physician is also crucial in the choice of *Bhaisajya Kala*. E.g. for *Rasayana* purpose, the *Agni - Bhesaja* interaction should stimulate the *Agni* at all levels - *Jatharagni, Bhutagni* and *Dhatvagni*. So, *Acharya* have advocated the *Pratah Niranna Kala*. When *Dipana Dravya* is to be given in a patient of *Agnimandya*, augmentation of *Jatharagni* is achieved by the administration of *Bhesaja* at the *Madhyabhakta Kala*. Here localized *Agni – Bhesaja* Interaction is also facilitated due to *Samana vayu* association.

Thus *Bhaisajya Kala* (time of drug administration) is an important principle to be considered while treating a disease. To highlight its imperial role in *Chikitsa*, there is an immense necessity to analyze this concept. The present paper focuses on the above points to find out the convincing answers.

Number of Bhaisajya Kala

There are three different opinions regarding the numbers of *Bhaisajya Kala* among different *Acharya*.

1. According to *Charaka*[4], *Sushruta*[5], *Ashtanga Hridaya*[6], *kasyapa*[7] — 10
2. According to *Ashtanga Samgraha*[8]– 11
3. According to *Sharangadhara*[9]– 5

S.N.	Ch.Chi. 30	Su.Ut. 64	As.Sa.Su.23	As.Hr.Su.13	Ka.S.Khi.3	Sha.Pu.2
1.	Niranna	Abhakta	Abhakta	Annam	Abhakta	Prabhate
2.	Bhuktadau	Pragbhakta	Pragbhakta	Annadau	Purva Bhaktasya	Divasa Bhojane
3.	Bhakta Madhye	Madhye Bhakta	Madhye Bhakta	Madhye Bhakta	Madhye Bhaktasya	Sayantane Bhojane
4.	Pratah Bhaktapaschat	Adhobhakta	Adhobhakta	Bhojnante	Adhobhaktasya	Muhurmuhu
5.	Sayam Bhuktapaschat	Antarabhakta	Antarabhakta	Kawalantare	Bhaktayo Madhye	Nisha
6.	Muhurmuhu	Muhurmuhu	Muhurmuhu	Muhurmuhu	Muhurmuhu	
7.	Samudga	Samudga	Samudga	Samudga	Samudga	
8.	Sabhakta	Sabhakta	Sabhakta	Sannam	Sabhakta	
9.	Grasa	Grasa	Grasa	Grasa	Grasa	
10.	Grasantara	Grasantara	Grasantara	Nisha	Grasantara	
11.			Nisha			

Sharngdhara has simplified the *Bhesaja Kala* into five, at the same time, the *Kala* mentioned by previous *Acharya* have been integrated into the five *Kala*.

Prabhate Kala - The *Kala* when sun has just arisen is used to define *Pratah Niranna Kala* of *Charaka*.

Divasabhojane Kala- The *Kala* during the day with reference to meal has been classified into *Bhojanagra Kala* i.e. *Bhuktadau Kala* of *Charaka*, *Bhojana Madhye* is similar to *Madhyabhakta Kala* of *Charaka, Bhojanante Kala* is similar to the *Bhuktapaschat Kala*; *Purvamantecabhojanat* is the *Samudga Kala* of *Charaka*.

Sayantanebhojana Kala - Is classified into *Grasa, Grasantara Kala* which is indicated for *Udana Vayu* vitiated conditions, while all the previous *Acharya* have indicated the same for the *Prana Vayu* vitiated conditions. *Bhuktasyante* and *Sandhyasya* is in contrast asked to be given in *Prana* vitiated conditions.

The *Chaturtha Kala* is the ***Muhurmuhu Kala*** and *panchama Kala* is ***Nisha Kala***. In short, the time during meals during the day is divided into four *Kala* and during evening into two *Kala*, and hence an attempt has been done by *Sharngdhara* to include all the important *Bhaisajya Kala* mentioned by previous *Acharya* into the five *Kala*.

Description of Individual *Bhaisajya Kala*

1. Pratah Niranna Kala (Abhakta):

Abhakta means administration of *Aushadha* alone[10]. *Abhakta, Ananna, Nirbhukta,and Suryodaye Jate* are used as synonyms.

Abhakta means, it should be before food in the morning[11]. Food should be administered only after the medicine is completely digested. The medicine is administered in the empty stomach when the *Koshtha* is devoid of *Kapha utklesha*. It becomes highly potent due to no contact of *Bhesaja* with food. *Bhesaja Virya* remains unaltered.

Indications-

The action of the medicine administered during this *Kala* is enhanced due to the empty stomach. Hence, the physician should see the strength of disease and patient. If both are strong this *Kala* should be selected. A strong disease expects a strong *Bhesaja* at the proper *Kala* i.e *Pratah Niranna Kala*. This *Kala* provides quick and definite cure of the disease.

2. Pragbhakta Kala:

The medicine is administered just before the intake of food[12]. Medicine will be digested very quickly without hampering the strength of the person. There will be no regurgitation of medicine as it is covered by the meal. *Prakbhojana, Annadau, Pragbhakta, Bhojanagre, Bhuktadau, Poorva bhaktasya* are used synonymously to indicate this *Kala.*

Indications-*Apana Vayu Vikruti*[13], Elderly, Children, *Bhiru* (panic), *Krishangata* (emaciated), weak, for strengthening the lower part of the body, diseases of lower half of the body[14].

3. Madhyabhakta Kala:

Administration of medicine in between the food is *Madhyabhakta Kala*[14]. In this *Kala Bhesaja* is compressed by meals at the upper and lower ends, so it cannot spread and is forced to act locally and eradicates the *Sthanika Dosha.* Systemic action of the *Bhesaja* on the *Sarira bhava i.e. Dosha & Dhatu is* delayed. The synonyms are *Madhye Bhaktam, Madhye, Madhya Bhaktam, and Madhya Bhojana.*

Indications-*Samana Vata Vikruti*[5]*, Koshtagata Vyadhi*[15]*, Paittika Vyadhi, Agni Udeeranartha in Mandagni.*

4. Adhobhakta Kala:

Kala after meals is the *Adhobhakta Kala*, both after lunch and dinner. *Chakrapani* reminds of both morning and evening time after meals. *Indu* and *Hemadri* add to the above by quoting that immediately after meals is the time of medicine intake. *Pratah Ashasya, Pashchat, Adhobhaktam, Ante, Adhaha are used synonymously to indicate Adhobhakta Kala.* Medicine is administered after food, in order to tackle various diseases related to the upper part of the body, as well as to give strength.

This *Kala* is divided in two types:-

1. *Pratah Bhaktapaschat* - indicated for *Vyana Vayu Vikruti*
2. *Sayam Bhaktapaschat* - indicated for *Udaan Vayu Vikruti*

Indications-*Vyana Vayu Vikruti.* For strengthening upper part of the body, diseases of chest, throat, and head and also diseases of upper half of the body.

5. Antarabhakta Kala:

The administration of Aushadha in between two meals is called *Antarabhakta*, means after digestion of food taken in afternoon, *Aushadha* is administered. Once *Aushadha* is digested, evening meal is taken. Similar thing is followed in case of night and morning food. In this *Kala Ahaara* and *Aushadha Jeerna Lakshana* play an important role. *Jejjata* includes this *Kala* under *Madhyabhakta,* which is for *Samana Vata* unlike *Vyana Vata* as told by others[16]. The first *Antarabhakta* is during daytime where as next is one *Yama* followed by the digestion of evening food as opined by *Indu,* which is same as that of *Nisha.*

The synonyms are *Bhaktayormadhye, Antarabhaktam* and *Antarbhaktam.*

Indications-*Hridya, Deepaka* (kindling digestive fire), *Vyana* vitiated disorders*, Deeptagni Purusha* suffering from *Vyana Vayu.* As it acts over *Udana*, which is seated in *Hridaya*, it gives strength to the *Manas* (mind).

6. Sabhakta *Kala*:

Sabhakta means, administration of *Aushadha* along with the meal. The mixing is done either with prepared food or during preparation of food[17]. *Bhakta Samyuktam, Sannam*, and *Samabhaktam* are used synonymously to indicate this *Kala.*

Indications- *Aruchi*, *Bala(Child)*, *weak,* debilitated patients, *Stree* (Woman*), Vriddha, Sukumara* (mild*), Ksheena*, to maintain the integrity of *Bala* and *Agni.*

7. *Samudga Kala:*

Bhesaja is administered at the time immediate before and after meal. As *Samudga Kala* acts on *Vyana, Apana* and *Udana Vayu*, *Samudga Bhaisajya Kala* could be advocated in *Vataja Prameha* and *Sukradosa* (*Su. Ni.* 1/20). In all the diseases, *Hikka, Kampa* and *Aksepaka*, there is an evident *Gati Vikrti* of *Vata Dohsa. Samudga Kala* probably helps in the therapeutic activity of the *Bhesaja* in correcting the pathogenesis and establishing *Anulomana* of *Vata Dosha.*

Indications- *Akshepa* (convulsions), *Hikka* (hiccough), *Kampa* (tremors), *Urdhvagata Roga, Pravisruta* (spreaded) *Dosha-Urdhva*, and *Adha Visruta Dosha,* When the form of medicine is *Pana* (liquid), *Navana* (administered through nostrils), *Avaleha* (confections)[18].

8. Muhurmuhu Kala:

The word *Muhurmuhu* means again and again, *Aushadha* is repeatedly taken with or without food[19]. It is indicated in all the conditions that demand quick and immediate therapeutic intervention. They could also be life threatening, unless proper treatment is done. I.e. in *Shwasa,* the *Vegavastha* is the condition in which prompt medication is mandatory.

Indications: *Shwasa*(dyspnoea) , *Hikka, Kasa* (cough), *Chhardi, Trishna* (thirst), *Visha* (poison), *Swarabhanga* (hoarseness of voice)[19].

9. Grasa Kala:

Grasa means *Aushadha* mixed along with each morsel of meal[19]. Synonyms are *Sagrasa* and *Grase-Grase.*

Indications-*Vajikarana Bhesaja*, *Prana Vayu* vitiated conditions, Formulations mean to stimulate *Agni: Churna, vataka, Leha* and *Agni Dipana yoga* are to be given at this *Kala.*

10. *Grasantara Kala:*

Grasantara means administration of *Aushadha* in between each morsel of food and is also known as *Kavalantare*[20].

Indications-*Prana Vayu* vitiated conditions, *Hridroga,Vamaneeya Dhumapana.*

11. *Nisha Kala:*

Administration of *Aushadha* at night is called *Nisha Kala. Aushadha* should be administered at the time of sleep. According to *Ayurveda,*one should go to sleep after the digestion of the evening meal. Hence medicine should be administered after the digestion of evening meal.

Indications- *Urdhwajatrugata Vikara*, means diseases occurring above the neck. *Sira, Urah,*and *Kantha, Pachana* and *Shamana Bhesaja, Lekhana* and *Brumhana Bhesaja* are indicated at the *Nisha Kala* by *Sharngdhara (Sa.S.P.Kh.2).*

Discussion-

In all the *Bhaisajya Kala*,the *Bhesaja* is given orally. The time of intake of meal is used as a variable in all the *Kala.* The sequence of *Anna* and *Bhesaja* is used as *Karana* to achieve expected therapeutic activity *(Karya)* in a diseased. *Acharya* have specifically mentioned *Bhaisajya Kala* only for a few *diseases* like *Visha*, *Kasa* and *Pipasa* (*Muhurmuhu Kala*) and *Samudga Kala* is indicated in *Kampa* and *Aksepaka.* In case of other diseases, while describing the *Chikitsa, Bhaisajya Kala* is specially indicated. With the help of the *Dosha* involved in the *Samprapti*, the *Sthana* of the *Vyadhi*, and status of *Agni*, one can decide the *Bhaisajya Kala* for any *Vyadhi* with the help of *Yukti pramana.*

Conclusion-

Bhaishajya Kala is an essential tool for administration of *Aushadha*. Number of *Bhaisajya Kala* is ten according to *Acharya Charaka, Sushruta, Astanga Hridya and Kasyapa*, eleven according to *Astanga Samgraha. Sharngdhara* has condensed the *Bhaisajya Kala* into five. *Bhasajya Kala* is meant for *Samana* purpose and not to be advocated in emergency conditions. Evaluation of *Vaya, Jeerna linga, Ritu, Vyadhi Dooshya, and Desha* play a pivotal role in deciding *Bhaishajya Kala.* Majority of *Bhaisajya* (66%) are described in relation to food.

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Conceptual Study

A Comprehensive Review Of Pathological Consequences In *Carakopaskara* Commentary

*Dr. Gagan Singh, **Dr. A. K. Panja, ***Dr. A. Chattopadhyaya, **** Prof. O P Upadhyaya

Abstract:

Pathology is the prime specialty of medical science and is considered as the gateway of medicine. Fulfillment the ultimate goal of life in terms of health can never be possible without proper acquaintance of pathological consequences of diseases. The current review is the categorical analysis of the terms, events, paths etc. related to pathology depicted in "Carakopaskara commentary" of Pandit Jogindranath Sen in the purview of underlined theme of Caraka Samhita.

Key words: Caraka Samhita, Carakopaskara commentary, pathology.

सारांश –

विकृति विज्ञान चिकित्सा विज्ञान की एक महत्त्वपूर्ण शाखा है; जिसे चिकित्सा का द्वार माना जाता है। रोगों का विकृति विज्ञान की सम्यक् अवधारणा बिना जीवन का स्वस्थ-रूप अन्तिम लक्ष्य को अर्जित करना सम्भव नही है। यह शोध-प्रबन्ध में चरक-संहिता में वर्णित विकृति विज्ञान विषयों का एवं तत् संक्रान्त परिभाषायें, सम्प्राप्तिपथ इत्यादि का आचार्य योगीन्द्रनाथ सेन कृत **'चरकोपस्कार-व्याख्या'** दृष्ट्या विस्तृत विचार किया गया है।

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Introduction:

Agniveshatantra is a classical medical text which is redacted by Acarya Caraka and is known as Caraka Samhita. The lost material of Caraka Samhita was fulfilled by Acarya Dridhabala. In due course of time various commentary were written by different scholars for the understanding of the textual matters. The commentary is written with the specific aim to explore particular texts in a descriptive and analytic manner.

Pandit Jogindranath Sen was the last authentic commentator of Caraka Samhita. He was disciple of great philosopher and physician Kaviraja Gangadhara Roy. After methodical study and analysis of all available commentaries[1] till the early decades of last century he composed his commentary which is famous as **"Carakopaskara"**. His categorical analysis in commentary is supposed to be the best acceptable for the current era. Pandit Jogindranath Sen has tried to explore the underline theme of principles and their clinical consequences in the light of classical, contemporary and modern logical wisdom.

The knowledge of normalcy or physiology indirectly is a tool to know the pathology as pathology is the knowledge of abnormal physiology[2]. The **contemptible** persons are abnormal in relation to structure and function or in other means which are exceptionally found[3].

Various angles of vyadhijanaka and vyadhibodhaka aspects of nidana described in Carakopaskara commentary in purview of underline occult theme of Caraka samhita are the subject matter of current presentation.

The Review:

The comprehensive outlook of Pandit Jogindranath Sen regarding various aspects of pathology has been presented hereafter in a synthesized manner. Though the subject matters are interlinked but for the sake of simplicity the subject matter is presented under some headings. The unique and different characteristic comments of the commentator are only considered for this.

Pancanidana:

The complete knowledge right from the etiological factor to the aggravation of the dosha along with its pathogenesis is called rogavisheshavijnana[4]. The nidanadi separately or in together is the means to diagnose the disease. As the entity known from aptopadesha is also acquired with perception because they all have different purpose and are applicable in different states of the disease[5]. Nidana, purvarupa and rupa are useful to know the state of disorder right from the intake of the specific factor upto the manifestation of the disease. If the disorder is not properly manifested then upashaya is applicable[6]. Samprapti is important for the knowledge of the variation and the degree of vitiation of dosha and considering primary and secondary factor for the pathogenesis of the diseases the treatment is appropriately made[7].

Dosha get vitiated due to intake of respective etiological factors and as a result of it ultimately diseases are produced like jvara etc.[8]. The vitiation of dosha due to dravya, guna and karma, which are the causative factors of diseases are termed as nidana. The nidana which has been mentioned in context to the specific diseases are included under trividha hetu i.e. asatmyendriyarthasamyoga, prajnaparadha and parinama[9]. The arambhaka or initiating etiological factor is termed as mukha that means etiological factors are of different types[10]. The disease is occurred according to the vitiation of the dosha[11].

According to vitiation of dosha the disease will produce like the germinated seed[12]. In normal qualitative and quantitative states of the dosha, disease is not produced as in this state it resides in its own place. The qualitative and quantitative

derangement of dosha initiate it to move from its own place or to be obstructed by the other which ultimately causes the pathogenesis for the said intrinsic factor[13]. This vaishamya is caused due to nimitta and prakrita. Nimitta vaishamya is due to the intake of etiological factor and prakrita vaishamya is due to the aggravation of vatadi dosha[14].

Painful physical and mental efforts either in the form of intake of madya, heat, water or fast and oblation in an apparently healthy person leads to production of disease or converts apparently healthy states and unhealthy states. Any physical or mental stress beyond the normal threshold level is harmful for the healthy person[15]. Evil past deed is the root of adharma[16]. Ayathabalarambha is sahasa, prajnaparadha, the action done suddenly without consideration of power of strength resulting in depletion of oja and shukra[17].

The acute instantaneous genesis of the disease highlights the aggravation of the dosha of the particular time and accordingly manifestation[18].

Dhatuvaishamya:

Vikriti is dhatuvaishamya which is manifested through some signs and symptoms[19]. The term vikara is implied for disequilibrium state of dhatus or ultimately it stands for abnormality. On the basis of the deviation from the normal range either in deficiency or in excessive form denotes the disequilibrium states of dhatu for the practical angles of treatment. Therefore the significance of dhatus is very important. Vatadi dosha, rasadi dhatu and svedadi mala are supporting physiological and biochemical entity for the normal function of the body and all are to be considered as dhatu[20].

The vitiated dosha damages the dhatus with which they come in contact. It is also implied for dhatumala like kesha, loma etc.. Khalitya and palitya are produced due to the vitiation of vatadi dosha with contact of dhatumala[21].

Purvarupa:

Purvarupa is related with forthcoming particular disease but not to the particular dosha. The etiological factors vitiate the dosha in a particular site and accordingly at site the disease is produced[22].

Upashaya & anupashaya:

Upashaya means oksatmya or ultimately suitable for the body[23]. Atmata is suitable for the body and asatmata is not suitable for the body and as a result produces different hazards[24]. Avaratva and pratipa stand for the worse or which is not good for health[25] and opposite to satmya[26] or anupashaya. Anupashaya is included under nidana because of its ability to produce disease.

In vataja jvara the intake of ruksha, laghu, shita etc. will intensify the disease due to the identical qualities and gravity of the disease will be worsened. On the other hand intake of snigdha, guru and ushna in vataja jvara being antagonistic to the etiological factors subside the disease resulting a good prognosis. The first one is termed as anupashaya and second one is termed as upashaya[27].

Samprapti:

Samprapti is the means of diagnosing and is also included under rupa[28]. Samprapti is pathogenesis of the disease or the interaction between the dosha–dushya by which the disease is produced. Vidhi is the type of samprapti like mridu-daruna, shariramanasa etc. Vikalpa is related to the degree of variation of the dosha in the minute level applicable for the prognostic consideration. It is implied for the samasamavaya not for vishamasamavaya[29]. **Bhedaprakriti is describing the types of disorder like jvara, atisara etc. from various angles[30].**

Adhishthana :

Ashraya is considered with respect to the particular dosha[31]. Adhishthana is the location of the disease generally classified into mana and sharira. Subsequently it means the particular location of the disease according to the affected organs or different rasa, raktadi dushya where as ayatana stands for aetiological factors. Therefore in the disease process apart from the aggravating dosha, dushya, sthana are to be considered[32]. The specific dosha if affected the place and having the identical property in both of it then the chances of accumulation of the particular dosha is more than that of the dosha which affect the identical parts of the body and therefore it usually subsides[33]. **Amashaya is explained as the site of vayu and the main site for originating diarrhoea[34].** Though the specific site of gulma has

been mentioned but often the doshaja gulma is produced in its own site as vata gulma in vasti; pitta gulma in nabhi and shleshma gulma in hridaya and both flanks[35]. Sidhmakilasa is type of kushtha and its pathology takes place in its own place[36]. Urdhavata though literally means vata in the upper part of the body or the upward movement of vayu but it is interpreted as separate diseases entities which are located in the chest region e.g. shvasa, hikka etc. it may be the excessive belching and is to be regarded as particular syndrome[37]. Vikalpa is unstable[38]. Anupasthitha means un-agitated and not located in amashaya[39]. Udbhuya means movement from its own place[40].

Shonitaja factor of Diseases:

Shonitaja signifies the vitiated shonita apparently which seems to be the causative factor for the diseases but clinically the dosha which are associated with shonita being aggravated produced the disease like ghritadaha[41]. The vitiation of this shonita is occurred through the vitiation of Vatadi dosha. This may indicate that above etiological factors vitiate the other dushya through the vitiation of rakta[42].

Associated factors:

Samkirna bhojana is described as causative factor for krimija **shiraroga**. Here the ingestion of the different items is signified and intake of different items may itself be antagonistic[43]. Atipidana means excessive pressing by the hand or external trauma[44]. Kama is the factor for excessively emaciation and debilitation[45]. Tikshna ghrana or irritant smells directly affects the brain and therefore clinically more applicable as responsible factor[46].

Ama:

Ama is the undigested juice[47] or uncooked or indigested juice[48]. The ushma of pitta is included in antaragni and that is why the ushma of pitta is manifested through the temperature of body[49]. The doshoshma and dhatuushma is mixed with ahararasa known as amarasa in the amashaya and obstructs the rasavaha and svedavaha srotas resulting the impairment of the function of agni, then this obstruction expels the heat of the digestion and the heat of the digestive fire when associated with the dehoshma and doshoshma, then there will be the excessive temperature[50].

Pitta and ama both are having sneha property and therefore ghee, best sneha, should not be given in a pitta associated ama disorder. The identical nature of the said factors afflicts the channels causing to defectiveness of the cellular activity for which ama will be accumulated more inside the cell due to prakrita vaishamya[51].

Prakrita-roga:

Generally the prakrita roga are incurable due to their identical natures except jvara. Again vataja prakrita jvara, which is manifested in rainy seasons, is difficult to cure because of antagonistic procedure of treatment with respect to particular disease and seasons. Though it is the general rule but in some cases prakrita roga may also be easily curable and that's why the terms prayena is used[52]. In this regards doshatrayapekshaya means the intensity or prognosis of disease depends upon the variation in degree of vitiation of dosha[53].

Prognosis of disease

As a general rule in the diseases, if the dosha, dushya and prakriti are identical in nature then those are incurable except prameha because of its own nature[54]. Tulya is the term literally means for similar in property. The disease is incurable if the patient or the place where he is residing in term of desha and the time of the disease in term of kala are having the similar quality of the disease the patient is suffering from. Tulyaguna in any context with that of disease is very difficult to cure[55].

If nidana, dosha and dushya are unfavorable state to each other, then susceptibility of the disease is maximum, subjected to the absence of antagonistic quality[56].

In the term indriyasthana, indriya means prana and the term indriya stands for definite fatal signs or rishta and the rishta means the fatal signs and symptoms of the span of life[57].

Variety of diseases:

All the disorders are included under the five classification of the diseases e.g. agneya, saumya, vayaviya, rajasika, tamasika[58]. Samanyaja and nanatmaja are the disease where the dosha get vitiated jointly or combined e.g. udara and singly e.g. nakhabheda respectively. Considering the clinical view of this classification nanatmaja vyadhi can be

considered as 'kshudravikara'. Kshudravikaras are the diseases where according to the location of the disease, nomenclature is done like nakhabheda, shankhabheda etc[59]. In respect to the classification of disease 'bhaktasyashanasthana' i.e. arocaka is not identical to that of Bhela but the variant classification vata-pitta-kapha- dvesha-ayasa is similar to that of quotation of Cakrapanidutta[60]. Dvanda means mutually antagonistic[61]. Dvividha signifies mridu-daruna, nija-agantuja, sharira-manasa etc.[62].

The exogenous disorders are ultimately converted into endogenous form affecting the dosha. The exogenous factor alters the function of intrinsic factors and leads to the production of diseases with the manifestation of specific signs and symptoms according to the gravity of the affected dosha[63].

The classification of diseases in terms of curable and incurable is significant as the treatment is performed on the basis of the degree of involvement in a curable disease where as the incurable disease does not depend on the variation of the treatment due to its niyata i.e. fixed character. Any how it is rejectable ultimately even after the administration of the palliative treatment[64].

Jvara:

The ushma of pitta is included in antaragni and that is why the ushma of pitta is manifested through the temperature of body[65]. In vata-paittika and vata-kaphaja jvara the desire of cold and heat are characterized respectively as in vata-paittika jvara[66].

In context to prakrita and vaikrita jvara, prakriti signifies the nature of time but not to nature of dosha. If the nature of time or nature of seasons is altered, that is termed as vaikrita. Dosha-kala-balabala means the strength of the dosha will be maximum if it is vitiated in is respective vitiated seasons or time, otherwise even after the vitiation that may not produce the disease due to its less strength. The strength of the disease is depended upon the production of the diseases due to the interaction in identical dosha-dushya and time which will be strength enough or otherwise not[67].

Classifying jvara into antarvega and vahirvega, vahirvega is termed as gambhira or deep rooted due to its worst prognosis[68].

Considering the view of Harita it can be said that santata jvara is of vatollvana, pittolvana and shleshmolvana. Santatajvara continues for fourteen days, eighteen days and twenty days respectively. Santata means immediate pervasion of doshas all over the body and persisting continuously for the period of a week[69,70]. Satata jvara appears once in a day and once in a night or twice in night because there is no mention of any rule in this regard. Including catuthaka viparyaya in vishamajvara, satatadi four types of vishamajvara have been mentioned[71].

Raktapitta:

Pitta gets vitiated on account of ushnadi-guna and results in the production of raktapitta because without the vitiation of dosha diseases cannot be produced[72]. In raktapitta, pitta is associated with rakta. Pitta vitiated with rakta and pitta is identical to the odour and colour of rakta is termed as raktapitta[73]. As no disease can be occurred without **viation** of doshas therefore in tilaka etc. vitiated pitta reaches into the blood and dried it up. Hence the dried up blood by pitta and causes tilaka etc.. this pathogenesis is varied from Cakrapani dutta where blood is regarded as prime factor[74].

The ruksha-ushna and snigdha-ushna etiological factors in raktapitta cause vataja and kaphaja raktapitta because ruksha and snigdha are the specific etiological factors for the aggravation of vata and kapha respectively. Vataja raktapitta moves downwards and kaphaja raktapitta moves upwards as the main seat of vata and kapha are pakvashaya and ura respectively[75]. If vata or kapha gets aggravated due to their own causes and associated with raktapitta then those are termed as vataja or kaphaja raktapitta respectively otherwise it is termed as pittaja raktapitta[76].

Gulma:

Mainly gulma is caused due to vitiation of vayu but when gulma is associated with the vitiated pitta or vitiated kapha then termed as paittika gulma or kaphaja gulma respectively. Otherwise it is vatja gulma where vata is independently vitiated[77]. Aniladinam is 'vatapittaja' or 'pittolvana vatagulma'[78]. Sannipataja gulma is caused by the unequal dosha. The antagonistic activities of them is strong enough

to cause chronic and in-debilitated processes which is difficult to cure[79].

Prameha:

Kapha-prakopa-

In all the pameha, kapha is primary causative factor. In paittika, vataja prameha the general causative factor for prameha (kapha prakopaka) are primarily responsible and in course of disease the specific causative factors of pitta and vata get aggravated. In pittaja and vataja prameha primarily kapha gets vitiated as the seat of shleshma is mutra[80].

Anushangitvam-

According to Carakopaskara, anusangi signifies repeatedly relapsing which is implied for prameha to justify the intensity and prognosis of the disease overruling the meanings of the particular word as only relapsing and persisting in nature, commented by Cakrapani Dutta and Gangadhar Roy respectively[81].

No of prameha-

Not only the disease prameha but all the disorders are innumerable only classification is made on the basis of the vitiation of the degree of tridosha, as no disease can be occurred without the vitiation of doshas[82]. According to the variation of the interaction of dosha-dushya different types of prameha are produced as the combination of dosha-dushya makes various colors[83].

Prameha & madhumeha

Cakrapani depicted that the term madhumeha is used for all prameha but on the basis of the prognostic approach madhumeha is of two categories caused due to dhatukshaya and avarana. Out of this two, the first one is incurable where as the later one is difficult to cure. The treatment of madhumeha pidaka caused by avarana is prescribed due to its kricchasadhyata. In this aspect very specific treatment is advocated keeping in view the categorical pathogenesis of this disease[84].

Pramehinam is the word used for madhumeha or it may generally for prameha because all prameha are denoted by madhumeha and if neglected they may turn into madhumeha[85].

All the prameha ultimately convert in to madhumeha if not properly treated and as a complication of madhumeha prameha-pidaka are seen therefore the term prameha-pidaka here instituted for pidaka caused as a result of madhumeha[86].

Prognosis:

Solitary kaphaja prameha is not associate with other dosha is curable vice-versa is incurable[87]. Samsrishtha means excessively vitiated dosha as if pitta is associated with kapha and located in medas then it becomes palliable otherwise curable[88].

According to Caraka, vata-prakopa-nimitta-madhumeha is of two types. The first one is due to dhatuksaya and other one is due to avarana. Due to excessive karshana in prameha, kaphadi are decreased resulting the aggravation of vayu. And the later type is due to santarpana, here the kapha performs avarana. The first one is asadhya and the later is krcchasadhya. According to Sushruta all the prameha are converted in to madhumeha if not arrested in proper time[89]. If vataja prameha occurs due to vataja nidana then it is not in curable but in case of vataja prameha if the vata gets aggravated due to diminution of other dosha or dhatu then that is incurable[90]. Anilatmakeshu means prameha due to vata but vata does not aggravate with the decrease of the other dosha and they are incurable[91]. Kaphaja prameha is sadhya because shleshma dosha and medodushya both are mitigated through apatarpana. As the only therapy is amendable therefore it is said as samakriya[92].

Kushtha:

Nindita vyadhi signifies shvitra, kushtha etc. rather than pama, vicarcika because of their intensity and prognosis or the causative factor of shvitra, kushtha are hereditary[93]. Sidhma is a type of kshudra-kushtha as mentioned by Sushruta and mainly manifested in upper part of the body[94].

Yakshma, rajayakshma and kshatakshina:

Yakshma and jvara both the termed are used to indicate the general diseases as a whole and are also implied for the specific diseases also[95]. SHosha and rajayakshma are synonymous[96].

Kshatakshaya is anubandhya or chief and negligence of the disease leads to rajayakshma. Both the diseases are separate in pathogenesis and separately mentioned. Rajyakshma arises independently or it arises after urakshata where as in kshatakshaya, kshaya follows urakshata and later on yakshma is associated with it[97].

Apasmara:

Agantuja apasmara is not produced as a separate entity like unmada but the exogenous factors is associated with the doshaja factors. Therefore dosha plays the prime role in production of apasmara[98].

Shotha:

Shotha caused by dual or triple dosha is included in vatika shotha[99]. The disease shaluki is predominated by kapha[100]. The treatment of kaphaja shotha is firstly described due to prime predominancy of kapha in shotha[101].

Sthaulya:

In atisthaulya person who are abnormal in terms of height and weight ratio, the nutrient from the ingested food material does not nourish the other dhatus as the channels are obstructed by meda itself and as a result of which meda itself is accumulated and the rest dhatu are not properly nourished due to less transportation of the nutrient[102].

Pandu-Kamla:

In context to classification of disease pandu Caraka has mentioned mridbhakshanaja pandu where as Sushruta has not mentioned it because of mritika itself vitiates the dosha. Therefore Sushruta need not require any importance to classify it separately. On the basis of the classification, specific treatment is administered in mridbhakshanaja pandu[103]. The type of mridbhakshanaja pandu is included in doshaja types[104].

Kamala is of two types' koshthasraya and shakhashraya. Bahupitta is associated with koshthasrita and alpapitta with shakhashraya[105].

Hikka

Yamala is the double impulse at a time[106].

Trishna:

The intensity in the quality of dravaguna of pitta being liquid in nature can never produce trishna. Vataja and pittaja trishna may be classified because of its common antagonistic factors like ruksha and specific antagonistic factor like ushna and tikshna respectively. Though pitta is having dravaguna still comparative intensity is less as a result produces trishna[107].

Consideration of agni in treatment:

In the treatment agni should be considered first. Heavy meal having the vrimhana activity is contraindicated to the excess emaciated and malnourished person because on account of the impaired agni the food itself will not be digested. Henceforth the impaired agni will be further degraded in function and the individual will be more cachetic[108].

Other terms

Besides the categorical consideration of individual diseases, Pandit Jogindranath Sen has described various pathological terms in respective places. A selected list is given hereafter.

Terms	Explanation
Amlaka:	eruption with cardiac pain and internal burning sensation[109].
Antardaha:	burning sensation in koshtha[110].
Apasmara:	where the memory of previously perceived knowledge is transiently lost[111].
Aruci:	inability in ingestion[112].
Ashabdasravana:	auditory hallucination hearing of un-existed sound. It signifies for both the low intensity sound and high intensity sound[113].
Bhojyanamavarodha:	the obstruction in the throat or difficulty in digestion[114].

Bhrama:	the sign similar to reeling of oneself or still objects are observed as moving[115].
Cyavana:	means the displacement of the organs or signifies the hyperplasia, hypertrophy or atrophy[116].
Dava:	burning sensation in mouth, lips and palate[117].
Davathu:	burning sensation in the special senses118 or burning sensation of the body as well[119].
Dhamanaipraticaya :	excessive filling of dhamani with solid material resulting in thickened dhamani[120].
Dhumaka:	special sensation like that of fumigation in head, neck, throat and palate[121].
Drava:	It is accepted instead of dara as a manifestation of vatic hridroga which commonly stands for palpitation with tachycardia. Daradarika is cleaving or breaking[122].
Gulma:	It is termed as gulma because of its shape like granthi or knot123 and inflamed lately or may not be inflamed at all[124].
Hridrava:	the palpitation with tachycardia[125].
Kasa:	that which produce abnormal sound like broken kamsya. The derivation is kasa kutsit shabda or kasanat kasa[126].
Klaivya :	erectile dysfunction and aharshana or incapability of sexual act[127].
Klinnakaya:	the old age[128].
Kotha:	a circular papule without any openings[129].
Kshaya:	the state of depletion of shukra and oja and synonymous to rajayakSma.[130]
Kshudravata:	alpavata, somebody considers it as a udanavayu[131].
Kushtha:	is the disease in which the tactile sense and sense organ is destroyed[132].
Mecaka:	looks like the glistering polished black gem[133].
Osha:	severe burning sensation with profuse sweating all over the body[134].
Padabhramsha:	means improper stepping according to will and thereby affecting to gait[135].
Pindikodveshtana:	means severe pain in pindika i.e. Posterior part of jangha or calf muscle appearing like hard elevated mass as caused due to striking by sticks.[136]
Plosha:	local flame like sensation without treating[137].
Pralapa:	irrelevant talks[138].
Soshma	quality of patient associated with kapha in unmada. In kaphaja unmada, this sign is manifested because of the desire for hot things[139].
Shrama:	fatigue due to exertion whereas klama and alasya are the fatigue without exertion and lack of enthusiasm in work respectively[140].
Shrishta:	persisting in nature, not moving away after the attack[141].
Supti:	1. means loss of sensation and caused due to aggravation of vata and to be encountered through svedana[142]. 2. stands for numbness but here it signifies motor paralysis[143].
Svadapravartana:	absence of sweat or the absence of secretion of sweat[144].
Toda:	intermittent pain not only the piercing one. Emphasize is given on the continuity of the pain not upon the character in this context[145].

Tripti:	anorexia or loss of appetite due to feeling of heaviness of abdomen or koshtha[146].
Tvagavadarana:	tearing of muscular tissue along with skin or external lining. anga-avadarana is interpreted in terms of pain in all part of the body with loss of activity[147].
Udarada:	generally signifies the urticarial patches but it is read as 'urabhisandya' instead of the same which is manifested throughrigor and shivering. Ura is the upper part of the amashaya, main seat of kapha. Considering the above categorical information it seems that the nanatmajavikara is considered as kshudravikara on the basis of location but are simplified those as signs and symptoms with modest clarification[148].
Vahulakshana:	means all the signs and symptoms including the intensity[149].
Varta:	the formed circular stool[150].
Vatakhuddya:	means affected padajangha sandhi or ankle joint affected by vata[151].
Vidaha:	burning sensation in the palm, sole, shoulder152.
Vijrimbhika:	excessive yawing caused due to vata and in ayama means extension of the body due to bending of the spinal cord either in one side[153].
Vipadika:	commonly denotes of cracking of feet only and here both palm and sole are not been incorporated as done by Cakrapanidutta because of the specific term pada[154].
Vishamajvara:	It means the visamata in context to vishamarambha, vishamakriya and vishamakala. Shita and ushna alternatively occurs and the temperature vary alternately[155].
Vivaddha:	means obstruction of mala which stands for dosha156 and sometimes it signifies the obstruction of shleshma[157].
Vyamlata:	characteristic of paka[158].

Discussion :

For the clinical implementation of ayurveda principles two spectrums, namely, nidana (janaka & bodhaka) in the form of diagnosis and cikitsa in the form of application of medicine have been depicted. Pandit Jogindranath has commented on this medical text considering all the relevant specialties related to pathology for the understanding of disease and its states. It is also justified to have a categorical vision in these specialties for the better acquaintance and to acquire up-to-date knowledge. A complete and comprehensive methodical study is required with the said specialties and their sub-specialties. The sequence of the variation of comments of different aspects of pathology by Pandit Jogindranath Sen itself signifies the coordination of the medical study materials in a synchronized form. Though Pandit Jogindranath Sen has commented on all the contexts related to pathology of Caraka Samhita, but in this study the emphasis has been given exclusively on the salient comments which differed to some extent from the comments of other commentators. After analyzing these comments, the annotations only have been arranged in context to the specific specialty to maintain the sequence of study.

Conclusion

On the basis of above emphasis, it may be concluded that Pandit Jogindranath Sen has incorporated all contemporary knowledge for exploration of various angles of Caraka Samhita. . He always has accounted his commentary with logical reasoning and made it quite easy for all kinds of intellect. Subject matters are described in a simpler way to explore the underline occult thought. In a majority of instances, the clinical standpoints are highlighted and facts are considered in the purview of practical applicability.

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Conceptual Study

Ayurvedic Principles Of Dietetics In Pregnancy

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Abstract-

Ayurveda, "the science of life" considers food to be the best source of nourishment as well as medication for pregnant woman. The regime of nine month *Garbhini Paricharya* is singularly unique to *Ayurveda*. It changes in accordance with the growth of the foetus in the womb and at the same time ensures the health of the pregnant woman. One can find remnants of this dietics with midwives and older women but a detailed & comprehensive diet plan is being practiced only by the vaidyas of the classical medical tradition. In this paper we are giving a broad expanse of the month wise diet in accordance with their counterparts in contemporary science which can also be modified according to the age, season, place, constitution of body (prakriti) and the digestive power (pachakagni) of the pregnant woman. A short brief of most commonly used galactogogues is also given that could be used in the post natal period.

Key words: *Garbhini Paricharya*, Galactogogues, *Pachakagni.*

सारांश–

आयुर्वेद, जीवन विज्ञान के अनुसार औषधि के साथ–साथ आहार पोषण का सर्वश्रेष्ठ स्त्रोत है नवमासिक गर्भिणी परिचर्या में आयुर्वेद का अतुलनीय योगदान है यह गर्भाशय में गर्भ की वृद्धि के साथ परिवर्तित होता है तथा गर्भिणी के स्वास्थ्य की रक्षा भी करता है परिचारिकाओं और वृद्ध औरतों से इस विषय का आंशिक ज्ञान मिल सकता है परन्तु विस्तृत एवम् संकलित आहारयोजना का प्रयोग केवल पारंपरिक चिकित्सा पद्धति के वैद्यों के द्वारा हो रहा है। प्रस्तुत शोध पत्र मे मासानुमासिका गर्भिणी आहारपरिचर्या का तथा इसके समकालिक विज्ञान मे तुलनात्मक अंश का विस्तृत वर्णन है, जिसे गर्भिणी स्त्री की आयु, ऋतु, स्थान, प्रकृति तथा पाचकाग्नि के अनुसार परिवर्तित किया जा सके, सामान्यत: प्रयोग होने वाले स्तन्यजनन द्रव्यों का भी संक्षिप्त वर्णन किया गया है जिसका प्रयोग सूतिका काल मे किया जा सकता है।

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Conceptual Study

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Introduction:

Pregnancy and childbirth have great significance in the life of a woman. The woman is who procreate children and propagates the human species. Acharaya Charaka says that pregnant lady is just like an oil filled bowl.

''.....पूर्णमिव तैलपात्रमसङ्क्षोभयताऽन्तर्वत्नी भवत्युपचर्या''

(च.शा.8/22)

Meaning thereby that the pregnant lady should be treated or cared just like a pot filled with oil as slight oscillation of such pot causes spilling of oil, similarly slight excitement or stress to pregnant lady can initiate abortion. On the other hand purusha (human) is born and grows from ahar rasa. So ahar rasa should be maintained healthy and the food and behaviour should be such that the ahar rasa is protected at all cost. As the garbha (foetus) is a small form of purusha the birth and growth of the child depends upon the food and actions of the pregnant lady.

[1]Normally the food taken by a pregnant woman:

- Nourishes and helps the growth of the foetus.
- Nourishes the pregnant lady's own body.
- Nourishes the breasts by which the breast milk is formed for the newborn.

So the garbhini should follow a careful regimen of food and behaviour during pregnancy. This regimen is known as "Garbhini Paricharya" which is a comprehensive combination of medication as well as food nourishment and is very essential for the prevention of present era problems related to the pregnant lady and foetus.

Materials And Methods:

All the information and literature have been taken from the ayurvedic samhitas, modern medical books, journals and various websites.

[2]Essential Elements Requied During Pregnancy:

Calcium

A developing baby needs calcium to have strong bones, teeth, heart, nerves and muscles to develop a normal heart rhythm. It plays an important role in developing a good blood clotting mechanism. If a pregnant lady does not get enough calcium from diet, the growing baby takes it from her bones, which may affect the pregnant lady's health. A pregnant lady need for calcium goes up in the third trimester when the baby's skeleton is rapidly developing. Although pregnant lady may consume more dairy products like milk and yoghurt, they often do not meet their calcium needs through food sources alone. Hence it is advised that before, during and after pregnancy she should take calcium supplements. In addition, they should have at least 2-3 servings of calcium rich foods like green leafy vegetables, raisins, soya beans, dates, guava and oranges every day.

Protein - Its sources are fish, meat, nuts, pulses and dairy products. Animal sources should be used in less quantity because contains high amount of fat so pregnant lady should eat lean cuts of meat wherever possible.

Vitamin 'C' - This will help to build a strong placenta, enables the body to resist infection and aids in the absorption of iron. It is found in fresh fruits and vegetables and vitamin supplement is needed daily by the pregnant lady as it cannot be stored in the body. A lot of vitamin C is lost by prolonged storage and cooking, so pregnant lady should consume freshly produced and steamed green vegetables or eat them raw.

Fibre

It should form a large part of the daily diet in pregnancy as constipation is common during pregnancy and fibre will prevent it. Fruits and vegetables are important sources because they can be eaten in a large amount every day.

Garbhini Paricharaya as described by different Acharayas in various Ayurveda Samhitas:

मास	चरक[2]	सुश्रुत[3]	वाग्भट(अ.स)[4]	हारीत
प्रथम	क्षीरमनुपस्कृतं मात्रावच्छीतं काले काले पिबेत्, सात्म्यमेव च भोजनं सायं प्रातच्भुञ्जीत	प्रथम,दितीय, तृतीय मासेषु मधुर शीतद्रव प्रायमाहर मुपसेवेत	क्षीरमानुपसंस्कृतं मात्रावच्शीतं काले काले पिबेत्तस्मिञअपि चअध्यं दद्अदशरात्रं क्षीरद्भवं सर्पि: शालपर्णीपलाशाभ्याम श्रितं कनकरजतक्कथितं शीतोदकअनुपानं पिबेत्	यषटीमधुपरुषकं मधुपुष्पाणि यथा लाभमनवनीतेन पयो मधु मधुरं पाययेच्च
द्वितीय	क्षीरमेव च मधुरौषधसिदं	प्रथम समान	मधुरौषधसिद्दम पय: पिबेत्	काकोली मधुरं पाययेत्तथा
तृतीय	क्षीरं मधुसर्पिभ्यामुपसंसृज्य	प्रथम समान	सर्पिन्मधुभ्याम	कृशरा श्रेष्ठा
चतुर्थ	क्षीरंनवनीतम अक्षमात्रम	पयोनवनीत संसृष्टंमाहरयेज्- जाङ्गलमांससहितं ह्र च भोजयेत्	अक्षमात्रनवनीतयुक्तम	कृतोदनम्
पञ्चम:	क्षीरसर्पि	क्षीरसर्पि:संसृष्टं	क्षीरसर्पि:	पायसं
ष्ठे	क्षीरसर्पि मधुरौषधसिदध्म	श्रदंष सर्पिषोमात्रां पाययेद्यवागुं वा	मधुरौषधसिद्धम	मधुरं दधि
सप्तम	क्षीरसर्पि मधुरौषधसिदध्म	सर्पि:प्रथक्परयदिसिध्म	षष्ठे समान	घृत्खणडेन
अष्टम	क्षीरयवागु सर्पिषमति काले काले पिबेत्	बदरुदकेन आदि ह्यआस्थापन बस्ति	क्षीरयवागु सर्पिषमती पिबेत्	विविध अन्न

Monthly Dietary Regime:

1st Month: Natural supplements like draksha (Vitis vinifera), khajoor (Phoenix sylvestris), vidari (Peuraria tuberosa) with milk in the morning. For the first 12 days pregnant lady should have ghee boiled with leaves of shalparni (Desmodium gangeticum). Take it in a vessel made of precious metals like gold or silver. After that have water that is boiled and then cooled. Pregnant lady's breakfast should include sweet, cold and semi solid foods. According to Acharaya Harit, yashtimadhu (Glycirrhiza glabra), parushak (Grewia asiatica), madhupushpa (Madhuca indica) like fruits should be mixed with makhan, milk, sugar and water. Cold milk sweet with sugar or honey should be taken at frequent intervals because in the [5]first trimester most common complaint of morning sickness occur which is relieved by cold milk. Frequent meals and drinks are advised which reduces nausea. Especially most women should notice it on a particular time of the day and should start taking drinks within that period of time.

2nd Month: Milk is given with same above mentioned natural supplements like draksha, khajoor etc. According to Acharaya Harit, kakoli(Lillium polyphyllum) with honey should be taken. Cold milk in small quantity but frequently should be taken by the pregnant lady. Madhur and sheet liquid diet like milk, coconut water, fruit juices, peya, kanji which is not sour should be taken frequently. Fruits avoidable are pineapple(Ananas comosus), papaya (Cariaca papaya), sugarcane(Sacchrum officinarum).

These should not be taken by the pregnant lady.

3rd Month: Rice should be mixed with milk or ghee and honey in unequal quantity and similar diet is followed as in 1st and 2nd month by the pregnant lady. According to Acharaya Harit, krishra should be taken as food. During pregnancy mainly vata dosha is aggravated and agni is mandagni. Ghrita and butter prepared from the curd of cow's milk contains short chain fatty acids which has less or very less deposition properties in the vessels and butter contains more carotene. Krishra is easily digestible by the pregnant lady.

4th Month: Pregnant lady should continue taking same sweet supplements with milk but replace ghee with butter (12-25 gm) or makhan made from milk. According to Acharaya Harit , kritoudan should be taken. Butter taken out of milk, rice with curd, fruit juice, coconut water, hridya fruits like mango (Mangifera indica), watermelon (Citrullus lanatus), white pumpkin (Cucurbita pepo), yellow pumpkin (Cucurbita maxima), snake gourd (Trichosanthes cucumerina) chichinda, badam (Prunus amygdalus), pomegranate (Punica granatum), amrataka (Emblica officinalis). Navneet is given in aksha matra i.e. heavy amount because uptill the 4th month foetus is fully formed in miniature form. From now onwards there will be further growth and development of all the organs and organ systems and the activities of foetus will also increase which means more requirement of energy i.e. fats and proteins.

According to ayurveda mansa dhatu leads to the formation of medo dhatu so protein is advised in large quantity (aksha matra). Cooked Sali and Shasti rice with takra, pleasant food mixed with milk and butter, non vegetarian diet should be taken in the form of meat soup of wild animals etc which gives bio viable protein and Fe for the growth of the foetus. Acharaya Harit have advised for kritaoudan.

5th Month: Rice with milk, ghee from butter, ghee etc. Mansa vardhak dravya (which promotes bulk in uterus) like meat soup, black gram etc should be taken by the pregnant lady. Rakta vardhak dravya which increases blood like pomegranate, chikoo (Manilkara zapota), apple (Malus domestica), spinach (Spinacia oleracea), beet root (Beta vulgaris), amalaki, guava (Psidium guajava) etc should be taken because in this month there is predominant growth of mamsa and rakta. The pregnant lady should continue the supplement regime of 4th month. Oil application and gentle massage followed by a bath with lukewarm water is recommended.She should continue this till delivery. Acc to Acharaya harit only milk should be consumed by the pregnant lady.

6th Month: Ghee, rice, gokhuru (Tribulus terrestris) siddha ghee (proceesed ghee), yavagu, rice, kanji etc should be taken and 5th month regime should be followed by the pregnant lady. Acc to Acharya harit curd mixed with sugar should be taken. In this month there is a common complaint of edema over the ankle and feets and sometimes over the whole body. Some swelling is normal in pregnancy as the body holds extra water. But more marked swelling and pain over the ankle could be a warning sign of pre eclampsia. So gokshura is given because it is a good diuretic and also cures the retention of urine. Rice with ghrita should also be taken during the 2nd trimester to improve the health of the pregnant lady itself and the foetus.

7th Month: Expectant pregnant lady feel an itchy sensation on the breast and abdomen or a burning sensation in the chest or throat due to increased size of the foetus. So lady should eat food in smaller quantities, frequently and a bite of something sweet with little ghee or oil should be taken which is easy to digest. Ensure that the pregnant lady salt intake during this period should be reduced to a minimum. Pregnant lady should also avoid drinking water immediately after a meal. According to Harit, ghrit khand should be taken. In this month all the parts of the foetus are well developed. Prithakparnyadi (Uraria picta) group suppresses the vata-pitta and acts as a good diuretic and as a growth promoting agent. It has also been said in atharva veda that prisnaparni is the drug of choice to save from embryo eating kanvas.

8thMonth: In this month pregnant lady should eat rice prepared with milk in semi solid or liquid form with ghee or yavagu. According to Acharya Harit, ghrit purak tail should be taken.

9thMonth: In the 8th and 9th month yavagu prepared in milk should be taken by the pregnant lady. Same schedule should be followed as the 8th

month. Oil application on the abdominal & genital areas should be done. Oil enema in small quantities should be taken to help ease false labour pains or cotton balls dipped in oil into the vagina can be inserted to lubricate the passage. The pregnant lady should be particular about maintaining hygiene to avoid infection which cause itchiness or swelling of the genital areas. According toAcharya Harit, different types of food should be given. Anuvasana basti with madhuraushdhi siddha tail and oil tampon can be given in vagina. In these months due to pressure of the gravid uterus over the large intestine and effect of the progesterone, the pregnant woman will have constipation and so anuvasana and niruha basti is advised which relieves constipation and suppresses the aggravated vata. Basti also stimulates the ANS governing the myometrium and helps in regulating the function during labour. Her birth canal, kukshi, sacral region, flanks and lower back becomes soft, vayu moves in the right path or direction, faeces, urine and placenta are excreted or expelled easily by their respective passage at the time of birth, there will be no complications and delivery occur easily at own right time.

[7]Galactogogues

Galactogogues are substances which stimulate milk supply or oxytocin, which aids in breast milk ejection or increase prolactin, thus increasing milk production. These herbs are also helpful in the sense that allopathic drugs like chlorpromazine, reserpine, sulpiride, domperidone given to increase breast milk production but causes several side effects.

Below is a list of some of the more effective and popular ones and some important information about each:

List of Galactagogues - Herbs that Increase Breast milk Production

Drug	Usage	Effect	Dose	Side Effects
1.**Fenugreek (Trigonella foenograceum)** (Methi)	Powder	Increases milk production	6gm daily	· May cause gas in either baby or pregnant lady. · May cause nausea,vomiting in pregnant lady and diarrohea in baby. · Should not be used in pregnancy and if allergic to peanuts or egumes.
2.Fennel or mishreya (Foeniculum vulgare)	Powder	Increases milk production	4-6gm daily	· May cause allergic reaction and dermatitis.
3. AlfaAlfa (medicago sativa) Isabgol	Powder	Increases milk production, rich in Vit K	60gm daily QID	· may cause loose stools or photosensiti-vity. · Not given to SLE patients or those who are allergic to peanuts or legumes
4. Coriander (Coriandri fructus)	In tea form	Increases milk production	3gm daily	· may cause photosensitiveity and allergy.
5.Garlic (Allium sativum)	Ksheer paak method	Increases nursing time because of odour in breast milk.	4 to 9gm daily	· some times decreases nursing time if garlic odour is unacceptable to infant.

Discussion

Milk is an ideal food for all human beings. It increases oja, immunity and provides all the nutrients .It have got high protein-fat ratio and is a good source of folic acid so natural source of prevention of neural tube defects in the pregnant lady.Honey and jaggery is used as a sweetner and contains fibers. Honey has decholestolysing property and prevents the deposition of fatty acids in the vessels. Fructose of honey is the source of energy and compensates with the requirement of glucose in the first trimester where the lady usually complains of loss of appetite. In general kheer, rabri, shrikhand, lassi, sweet curd, ras malai etc can be taken. Fruit juices are a good source of minerals like Na, K, Mg, Zn, Fe and vitamin C, carotene and essential amino acids which are important for the formation of proteins. During first three months, pregnant lady usually suffers from nausea, vomiting which leads to dehydration and loss of nutrients so liquid diet compensates for this loss. Easily digestible food and frequent meals gives relief to pregnant woman suffering from heart burn and constipation like problems. In pregnancy the valve at the entrance to your stomach relaxes because of hormonal effects so stomach acid regurgitate into the stomach. The pregnancy hormone progesterone relaxes the intestinal muscles which slows down bowel movements and creates constipation. All these above conditions facilitate to less consumption of diet and create worse condition in pregnancy. So high fiber food and plenty of water will help out the pregnant lady.

[6]Sali and Shastika rice should be used which are light in digestion. Intake of parboiled rice is more nutritious because it contains more water soluble vitamins and essential amino acids nearly 2.8mg Fe per 100mg serving and good amount of folic acid. Old rice contains short term carbohydrate which gives energy in very less time i.e. digests in less time. Flour of perched rice is antiemetic. Whole wheat flour is rich in fiber, protein-12g/100gm, Fe-4.9mg/100mg and so relieves constipation. Wheat and rice have madhura vipaka and sheet virya so it subsides the aggravated vata and does not cause acidity. Green gram is easily digestible and is a rich source of folic acid and contains all essential amino acids and good source of protein

[2]Foods suggested during Pregnancy:

- Cheese, milk, yoghurt: Calcium, Protein
- Dark green, leafy vegetables: VitaminC, fiber, folic acid
- Lean red meat: Protein, Iron
- Liver: Protein, Iron
- Oranges: Vitamin C, Fiber
- Poultry(chicken): Protein, Iron
- Sardines(sea food): Calcium, Protein, Iron
- White fish(river fish): Protein
- Wholemeal bread: Protein, fiber, folic acid
- Whole wheat pasta and brown rice: Fiber

Conclusion

Garbhini Paricharya is completely scientific antenatal management given by our Acharayas. During this period a pregnant lady needs great care and attention from her husband and the family members. It fulfills both preventive as well as curative criteria. It deals with psychological, nutritional and spiritual aspects of this crucial period. Diet & epigenetic play key role in the development of foetus in Utero. Nowadays incidence of problems like nausea, vomiting, anaemia, constipation, miscarriage, low weight birth, still birth babies, preeclampsia and eclampsia like problems are increasing due to the abnormal lifestyle dietetics. Further studies & research can explore this concept & prevention of P.I.H, D.M., Malnutrition, I.U.G.R. will become more easier.

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Case Study

Role of Ayurvediya management in Facial Nerve Palsy - A case Study

*Dr. Mehra Rakhi, **Dr. Sehrawat Rachana

Abstract:

Facial nerve palsy either in centric or periphery needs proper attention as debility due to such disease is required to recover at its own onset. Where hypertension is the reason in maximum such cases, hypotension can not be excluded. In Ayurveda this is resembling with *Nanatmaja Vat VyadhiArdit*. This is caused by *Vata* in association its effects on sensory and motor function of facial nerve due to *DhatuKshaya*or diminution of tissue -element.

Objective:to find out a faster, affordable ayurvedic remedy to enhance faster recovery for facial nerve palsy.

Method : Similarly history of ear scratching with a pencil, presently ear ache and raised ESR with proper middle year examination reveal the exact cause otitis media for this case. This case of facial nerve palsy was having hypotension and had been not only managed but also cured with the help of ayurvediya management included oral administration with *Yoga Basti* and *Marsha Nasya* within 15 days.

Result: Within 18 days (D/A 4.2.2014 to D/D 22.2.2014) patients got 90% relief at the time of discharge however, completely cured even within three days of follow up (three months}.

Conclusion: The peripheral facial paralysis (PFP), resulting from affection of the seventh nerve is the most common pathology of the cranial pairs(20 to 30 cases per 100.000 people). The appointed cause is inflammatory affections of the middle ear and easily and faster treated with Ayurvedic *Vathar* management.

सारांश-

केन्द्रीय या परिधि में तंत्रिका पक्षाधात के कारण होने वाले इस तरह के रोग अपनी शुरूआत में ठीक करने के लिए आवश्यक है कि दुर्बलता पर विशेष ध्यान दिया जावे। उच्च रक्तचाप अधिकतम मामलों में मूल कारण है। निम्न रक्तचाप को इससे बाहर नहीं किया जा सकता है। आयुर्वेद मे यह नानात्मज वातव्याधि के साथ मिलता-जुलता है। इस वजह से ऊतक-तत्व की धातुक्षय कमी संवेदी और मोटर तंत्रिकाओं के कार्य मे व्यवधान होता है। उद्देश्य: फेसियल तंत्रिका पक्षाधात के लिए तेजी से स्वास्थ्य लाभ में बढ़ोतरी के लिए तीव्र सस्ता आयुर्वेदिक उपचार का पता लगाना। विधि: पूर्व में कान में दर्द होने पर खरोचने का इतिहास और इस मामले में उचित मिडिल इयर जॉच के साथ ई.एस.आर में वृद्धि से इस मामलें में सटीक कारण ओटिटिस मीड़िया का पता चलता है। फेसियल तंत्रिका की पक्षाधात का यह मामला हाइपोटेंशन का रहा था और यह केवल नियंत्रित ही नहीं रहा बल्कि उसका ठीक से इलाज भी किया गया था। (D/A 4.2.2014 से D/D 22.2.2014) हालांकि रोगियों को छुट्टी के समय इसमें 90 प्रतिशत राहत मिल जाती है। फिर भी पूरी तरह से इलाज शुरू होने से 03 दिन के भीतर और पूर्ण ठीक होने में 03 महीने लग जाते है।

परिधीय चेहरे का पक्षाघात (पीईपी) सातवी तंत्रिका के मिलन से उत्पन्न वरनियल (varnial) जोड़ा (प्रति 1,00,000 लोगों पर 20 से 30 मामलें) सबसे अधिक आम विकृति है। हालांकि मिड़िल कान से उत्पन्न यह रोग आयुर्वेदिक वातहर प्रबंधन के साथ आसानी और तेजी से ठीक किया जा सकता है।

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Case Study

Role of Ayurvediya management in Facial Nerve Palsy - A case Study

Dr. Mehra Rakhi, Dr. Sehrawat Rachana

Introduction :

The appointed causes are for Facial paralysis are Viral infections such as simple herpes and herpes zoster, trauma, inflammatory affections of the middle ear, metabolic diseases and tumors. The etiologic diagnosis of PFP is many times a challenge in the management of this pathology and in 60% to 75% the cause is idiopathic paralysis or Bell's palsy, the most frequent cause. Several studies have been presenting conflicting results as for its epidemiology. Most of which appoint the similarity as for the incidence in both sexes (1). Some state that the pathology is more frequent in young adults (2), but others find an incidence increase with the aging (1). Findings related to the season, geography and ethny have not been consistent. Ideopathic cause is the most common cause. Trauma is the second most frequent cause. The clinical or surgical treatment depends on the lesion extension. In these cases image exams are essential, in addition to electrophysiological exams to research the degree and evolution of the neuronal lesion.

The herpes zoster is latent in the geniculate ganglion and its reactivation generally originates the Ramsay Hunt Syndrome, in which the patient presents with acute facial paralysis followed by severe pain and vesicular eruptions of the external auditory meatus; only 50% of these patients recover completely (3).The acute otitis media may be present with the facial paralysis as a complication. The incidence is higher among children, the prognosis is fortunately very favorable and there is full recovery in most cases. In the chronic otitis media, a PFP may indicate there is a cholesteatoma in the middle ear. This alone may be sufficient to diagnose Bell's Palsy, in the absence of other findings. Additional investigations may be pursued, including blood tests such as ESR for inflammation, and blood sugar levels for diabetes.

The Schwanomas of the 7th and 8th cranial pairs are less common causes of facial paralysis, but they must be recalled due to clinical implications they may cause. Approximately 4% of the patients with Schwanoma of the 8th cranial pair, the most frequent one, will have facial paralysis as the first signal. Therefore, the schwannoma of the 7th pair will only affect its function when in highly advanced stage (4). The paralysis graduation is important for the clinical and postoperative follow-up.

Various methods of graduation have been proposed along the years, Based on the afference and efference functions of the facial nerves tests like: Schirmer, Stapedial Reflex, Electrogustometry and Salivary Flow are important to set up the topodiagnosis or the probable lesion place in addition to contribute for the prognosis evaluation**.** However, image exams such as: Computed Tomography and Magnetic Resonance are also used to compose the diagnosis.

Faced with a case of facial paralysis the electrophysiological exams are generally very important for the prognosis and the indication of some more aggressive treatments. Tests such as Hilger, Electroneurography and Electromyography are largely used everyday. Such evidences help the professional make the decision 48 hs after the beginning of the symptoms when the ischemia time has already set up the actual percentage of injured fibers (5-12).

The treatment of paralysis focuses on the basic cause therapy. In cases of Bell's palsy, the form of treatment is not fully established yet. Some studies have sought to use Antiviral Agents, Corticoids and even surgical decompression of the nerve in search of some significant result. The literature so far has been presenting very contradictory results (13-19). The emphasis is the ocular protection to prevent lesions of the cornea and conjunctiva, which are very frequent in this cases.

In Ayurveda nerves including the cells in the brain and spinal cord are the pathways through which *Vayu* moves. Thus, *Vayu,* the moving material or the Neuro-Humoral Transmission of sensation, is different from the nerves through which it moves/ spreads. Any damage or decay of these nerves invariably cause impairment of the function of *Vayu*- resulting in the production of several diseases of *Vata*, popularly called as *Vat Vyadhis*.

Improper food and regimen may also cause of diminution / *Kshaya* of *Dhatus*. The tissue elements resulting in the morbidities of Nerve cells to give rise to such diseases. Therefore, the line of treatment in Ayurveda is based on the removal of obstruction in nerves of their cells (srotosodhana with Panchkarma , and restoration of the normalcy of these cells (Prakriti Sthapan) and the appropriate norrishment (*Tarpan Chikitsa*/ *Rasayan* . etc.

The present work is to outline the incidence of several etiologies and to manage the profile of patients attended with peripheral facial paralysis in the ACRI, New Delhi in Jan 2014.

Material and Method:

A Patient Named Mammu Khan, Age32yrs , male, helper in shoe shop, address, Madipur village, New Delhi was suffering with deviation of mouth since 10 days, difficulty in chewing, unilateral facial weaknes with other symptoms including loss of taste, hyperacusis, decreased salivation and tear secretion, difficulty in swallowing, earache, excessive tear secretion with acute facial pain radiating from the ear may precede the onset of other symptoms develop over oneweak before. After physical examination patient selected for admission at ACRI, New Delhi on dated 2nd February 2014.Patient's history has been taken and ayurvedic management has started. A thorough medical history and physical examination, including a neurological examination, are the first steps in making a diagnosis of Facial nerve palsy.Additional investigations were pursued, including blood tests such as ESR for inflammation, and blood sugar levels for diabetes.No sign for sarcoidosis or Lyme disease were suspected, no history of poisoning , trauma or a tumour had found. Thyroid, diabetes mallitis, hypertension, dermal infection, fever found. Any addiction of smoking or tobacco, and hospitalization have been excluded. Patients wasalcoholic and was apparently alright 10 days before. He developed deviation of mouth, difficulty inchewing and dribbling of saliva excessive tears secretion since 24 hours.

Observation:

Patient has been examined physical , mental, local and by investigation ways. Diagnosis has been made .the line of treatment have been decided as per the prevalence of Dosha- DushyaSammurchana (ayurvedicetiopathogenesis) based on examinations of patients,

Physical examination : Nooedema/cyanosis/ clubbing/pallor

H/O hospitalization : According to patient, patient was absolutely fine before and was not admitted anywhere

Habit : Patient having good sleep, good appetite and proper

Symptom on set : Acute

Duration : 10 days

Course of condition : Static

Associated symptoms : No pain, headache, nausea, vomiting, vertigo, numbness, weakness, seizure c/o tears secretion

Memory : Normal

Intelligence : Normal

Orientation : Normal

Psychological disturbance : No confusion

Pulse : 84/min, regular

BP : 80/52 mmhg in supine.

Chest : Bilaterlly clear

CVS : S1, S2 normal , no murmur

Abdomen : Soft, no hepato spleenomegaly

HMF : Oriented, alert and cooperative

Central Nerves : Normal including fundus examination

Power: strength : Bilaterlly normally elicitable in both, UL, both LL

DTR : Bilaterlly normally elicitable in boUL , both LL, Sensory : Decreased touch and pain 20% B/L LL. Vibration and proprioception in B/LL. No sensory level in trunk

Sensory Nervous System : Normal in bl/l UL

Planter Sensation : B/L extensor

Meningal sign : Negative.

No skin rash or depigmentation is found.

Past and family history : Insignificant for such illness. There was no history of alteration of mental status, cognitive decline, dimness of vision, drooping of lids, diplopia, difficulty in chewing or swallowing or cerebellar involvement . No h/o similar episodes in past, intoxication of any drugs or animal bite.

Sign and symptoms

Pre-treatment	Post-treatment
● Inability to close eye on affected side	● Ability to close eye on affectedside
● Dropping on affected side	● No Dropping on affected side
● Excessive tear secretion	● No tear secretion
● Sensitivity to sound	● No Sensitivity to sound
● Drooling	● No Drooling
● Loss of sensation of taste	● Sensation of taste
● Pain in ear, cheek, teeth	● No pain in ear, cheek, teeth
● Loss of facial sensation	● Adequate facial sensation
● Vision changes	● Vision intact
● Malaise	● No malaise
● Unilateral	● Recovered
● Weakness	● No Weakness
● No blindness	● No blindness
● No seizure or	● No seizure or
● No headache.	● No headache.
● No Facial movement of eyebrows	● Facial movement of eyebrows
● Eye Open	● Eye closure
● No Ability to use cheek in smiling	● Ability to use cheek in smiling
● No Ability to use lips in pucker	● Ability to use lips in pucker
● No Ability to suck the cheeks between the teeth	● Ability to suck the cheeks between the teeth
● Raising the upper lips	● Raising the upper lips
● No Raising and lowering the lower lip	● Raising and lowering the lower lip

Lyme test - Negative MRI of the head- NAD

Observations of investigation before and after treatment

S. No.	Investigation	Before treatment	After treatment
1.	Hb gm/dl	14.3	**15.3**
2.	PCV %	44.5	**47.1**
3.	RBC million /mm3	4.85	**5.16**
4.	Platlet m/mm3	298	**327**
5.	TLC	N:50, E: 5, B: 14, L:44,	**N42, E1, B0, M0, L57**
6.	ESR %	43	**57**
7.	Blood sugar PP	131	**84**
8.	Blood sugar fasting	82	**77**
9.	Uric acid	5.21	**5.49**
10.	T.Bilirubin	0.46	**0.56**
11.	T. Cholesterol	174	**194**
12.	Tryglycreine	216	**203**
13.	Ca	9.5	**-**
14.	Uric acid	5.31	**5.49**
15.	SGOt	28	**29**
16.	SGPT	29	**29**

Ayurvediya management :

Patient admitted and administered orally following medicince for 15 days

- Syrup Lauhasava : 2 tsf twice a day with water
- Syrup Drakshasava : 2 tsf twice a day with water
- Narikel Lavan : 250 mg twice a day with water
- Vishtinduk : 2 tab. Of 250mg thrice a day
- Agnitundi : 1 tab of 250 mg thrice a day
- **Panchakarma:**
- **Snehaan – Dhanwantar tail**
- **Svedan-** *Nirgundi Patra Pind*
- **Nasya (Marsh Nasya)-**
- *AnuTaila* : 8 drops in each nostril twice a day for seven days.

Yogbasti : 8 *Basti* (5 *Anuwasan* with *Dhanwantar Taila* 60 ml

3. *Asthapan Basti* with *Madhu+ Saindhab+ Dashmool Kwatha*)

Physiotherapy : Facial Exercise- Whistling, raising eye brows, chewing

Discussion :

Ardit is a disease of *Vat* mentioned in the Charak Samhita *Vatkalakaliya* chapter. *Vat* Kshaya is the caused due to *Rasakshaya* patient is having low blood pressure. Which indicate the *Dhatuksaya* however patient's hemoglobin was 14. In present case of *Ardit* due to a blockage in the transmission of *Vata*, the question of *Gate Vega* does not arise. And *Kriyahinata* (loss of physiologic function of facial nerve is the symptom).

Lala srava, (salivation), *Vyadha (* pain*), Kampa (*tremors*) Sphuran (*tingling sensation*), Osta*

*Svaayathu (*swelling in lips*), Sula (*pain*)* , *Hanugraha (*Jaw rigidity*), Vakagraha(restricted speech}, Mukha Vakrata (*deviated face*) , Aspastha Sabda (* unclear words*)*, ear pain and other *Vataj Ardita* symptoms occurred.

In present case of PFP aetiology for onset was *Ratri Jagaran* (sleeping during day time), *Ati Shita* (excessive cold wind with *Megha gaman* (cloudy weather). During this period weather of Delhi was cold windy. Moreover day night working in the shoe factory lead *Man Tapa* (anxiety). This patient was used to have Amla, sevan (intake sour food), Ama (undigested food), eating over indigestion, intake of excessive Laghu (light), Ruksha (nonnutrtious), *Shita* (cold), *Tikta* (bitter), *Katu* (spicy), *Kashaya* (astringent) food and vulnerable for dimunition of *Dhatu* and lead *Vata* aggression which is the root cause of *Vataj Ardit* (PFP). Along with these causes patient had history of scratching his ear right with a pencil followed by earache since seven days.

No skin irruption reveals abscence of any herpes zoster. No history of fever reveals absence of herpes simplex. No history of trauma exclude any fracture. No history of tumour reveals any mechanical compression on facial nerve. The present case is having sudden onset also. No lyme or Sarcoidosis history rulled out this also. No history of stroke hence can be rulledout. Normal blood sugar rulled out diabetes mallitus cause. Unilateral facial paralysis was observed. However, Bell's palsy is the most common cause of acute facial nerve paralysis. But when there is no cause available and is diagnosed by exclusion of others and when disease is idiopathic.

Due to otitis media facial paralysis is almost caused by damage or swelling of the facial nerve, which carries signal from the brain to the muscles of the face and damage to he brain signals to the muscles of the face.

Under the constant influence of the causative factors the *Vat, Prana, Vyana, Udana* divisions are vitiated. These vitiated *Doshas*, swiftly comes out of their usual locations due to *Prakopa*. Thus these *Doshas* are forced to settle down some where else in *Urdva Jatrugata Angas*. In search of new places these doshas spreads swift in the region through the various *Sukshma srotansi*, as a result these interact with the *Raktadi dhatus* and due to their pathological nature, they disturb the *Dhatus* and converts them in to the *Dushyas*. *Charaka* clearly stated that in all types of diseases relating to the head, vitiation of *Rakta* is an invariable cause.

In turn the *Dhatwagnis* located inside these vitiated *Dhatus*, becomes too weak to carry on their normal agni *Vyapar* or intermediatery metabolism. This results into the over production of *Dhatu gata Vata* and under production of *Sara Bhaga* or nutrient fraction. The over produced *Ama* in combination with the local *Kapha,* promotes in the form of *Ojas*, while in morbid condition it takes the form of *Mala* (excreta) and cause misery). *Tarpaka* variety, is predominantly present in this part of the body, being its main place of location. More over this *Tarpaka Kapha* is also vitiated due to the *Nidanic* factors like excessive exposure to cold and *Shitambu sevan* etc. cause Sroto Avarodha. If this *Avarodha* takes place in the Motor fibers of *Moukika Nadi Srotas* the motor functions of the face are affected, similarlty if *Sangnavaha* (sensory fibers) becomes the target, then sensory (taste) functions are affecteed, these srotases arise from the *Mastika* and spreads through out the facial region to carry on the motor and sensory functions. In this context it is interesting to note that facial nerve, being the mixed nerve, *chestavaha* or motor fibres are more easily blocked than sensory fibres or sanga vaha *Sukshma Srotas*. The movement these srotas are obsturcted by the combination of *Ama* and *Kaphja*, the vitiated *Vata*.

In present case the prodromal signs were *Roma Harsh* (goose bumbs), *Vepathu* (tremors), *Netra avilam* (eye mud), *Charma Suptatha* (numbness in skin), *Toda* (pricking pain), *Manya Vayur udbhram* (neck rigidity), *Hanu Graham* (jaw rigidity), *Aspapasta Lakshanas* (unclear symptomatology) of *Vata Vyadhi*, pain radiating from ear to *Hanu* (jaw) and towards yawing difficulty, *Badhirya* (impairment of hearing), *Swara Bheda* (hoarse voice), *Akshi (eye), Shankh (temple), Sravan (*eye*)*, *Vedana* (pain), *Nighraha* (neck, Vaka sang (speech impairment), *Vaikrita Netradi* (inablility of closer of eye, eye brow, deviation), difficulty in eating, *Netra Shabdam (*open and non closure of eyes*),* fixed eye unability in closing of eyes) *Kshavathu* (sneezing) etc. last seven days.

Ayurveda also mentions indistinct manifestation of the signs and symptoms of disease becomes their *Purvarupa* or prodromal symptoms. In present case earache, stiffness, lameness of hands, *Anidra* (insomnia) S*pandanam* (twitching sensation), *Gatrasuptata* (numbness in the area). History of cold, earache, loss of hearing (lt) just before onset of facial palsy with raised ESR lead the exact cause of this case. This can be summerized that *Ativriddha*, that is increaed *Vata*, when spreads in the half or entire body, it causes *Shoshan* of *Rakta* (loss of circulation of *Vat*) and other *Dhatus* and there by causes the Sankocha (constriction) of the organs situated above the neck, resulting into the *Vakrata* of *Mukha, (*deviated face, *Nasa (*Nose*), Lalata (* forehead*), Netra (*eyes*), Greeva (*neck) etc and ultimately produces the symptoms or *Lakshanas* of *Ardita*.

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Ayurveda treating this disease with various potent drugs may work in arresting the disease with various potent drugs may work in arresting the disease already formed, but at the same time if (*Nidan Parivarjana*) steps are not taken, then the whole aim of *Chikitsa* is disturbed. Since due to continuous exposures to the causative factors, the disease is likely to further intensified, even through a therapy has been initiated.

Through the place, where the neurons are exposed to the external environment auditory the *Nasya Karma nasal* insuflation is the best therapy. *Tikshana* type of *Nasya* with *Anu Taila* gave effective *Vatahar* action.

Through the region of nutritional support *Pakvashaya* and P*urishadhana* in terms of *Drakshasav, Lohasava. Virechana* and *Basti Karma* are the therapies to be adopted. For *Dhatukshaya Agni Dipan ,Pachan, Bastikarm, Nasya* with *Vathar* drugs like *Vishtinduk* and *Agnitundi* were recommended. Hence these treatments correct the *Agni* and normalize the vitiated *Vata*.

Snehana with *Dhanwantharamtail* (*Bala, Ksheera, Dashamula*and *Kulatha* in *Til* oil is beneficial for *Karma Hani* (loss of function, *Kriyahinata* of *Ardit*) due to *Vathar* action.

Svedan is very essential to bring the doshas from all the *Dhatus* into the *Koshta* or *Siras* to remove or pacify with the *Vataharbasti* or *Vataharchikitsa*.

Dashamula kvath is having *Vatahar* property and was used for *AsthapanBasti*

Ayurveda mentioned *Vatahar* treatment in the case of Ardit. *Vata*, especially *Pran, Vyan,* and *Udgar*, arteries situated in the *Sharirasya Uparibhaga*, that is upper portions of the body like *Siras* (vessels) the *Mastiska Majja* (cerebral fluid), *Netra* (eyes), *Nasa* (nose), *Gal-Kantha* (throat), *Mukha* (lips, mouth), *Lalata* (fore head), *Shanka* (temporal region) and *Bhro* (eye brows) etc. in *Pakrita Avasta* (physiological state) carries out all the vital and important sensory aspects of human life like *Uchwasa (*inhalation), *Nishwasa* (exhalation), *Gati* (movements) like *Nimesha* (opening of eyes), unmeshana (closing of eyes), *Vvakpravriti* (unclear speak), *Gandha grahana* (odor smell problem), *Shabda Grahana* (unable to talk) etc.

In this case simple provocation of *Vata* was there without any kind of *Avaran,* it should be treated at first with oral administration of unctuous preparation *Mahanarayan Taila* externally and *Panchtikta Ghrita* internally. When patient was well oleated daily he had been subjected to sudation treatment as required after he has been well inuncted with the kettle sudation with *Dashmula Kvath* and *Nirgundi Patra* decoction. After getting *Samyak Lakshan* he was kept on *Sansarjan Krama* to ignite his digestion power. After igniting it patient was subjected to oral medication with *Yoga Basti* followed by a diet consisting of *Dipan* and *Pachan. Basti* is the half treatment of *Vata Vyadhi,* considering this fact *Yoga Basti* had planned followed by *Nasya* with *Sadha bindu tail* and S*ansarjan Kram* to re built the humor equilibrium. Therefore patient got complete cure within 21days.

Conclusion:

Ayurveda plays efficient role for Facial paralysis (*Ardit*) and can be utilized in more cases to get sufficient data.

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Instructions for authors

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It is published quarterly i.e. January-March, April-June, July-September and October-December.

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Groups of persons who have contributed materially to the paper but whose contributions do not justify authorship may be listed under a heading such as "clinical investigators" or "participating investigators," and their function or contribution should be described-for example, "served as scientific advisors," "critically reviewed the study proposal," "collected data," or "provided and cared for study patients."

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Identifying details should be omitted if they are not essential. Complete anonymity is difficult to achieve, however, and informed consent should be obtained if there is any doubt. For example, masking the eye region in photographs of patients is inadequate protection of anonymity.

Informed consent is a must in prospective trials involving human beings. When informed consent has been obtained it should be indicated in the manuscript.

II.E.2. Authors and Reviewers

Manuscripts will be reviewed with due respect for authors' confidentiality. Confidentiality may have to be breached if dishonesty or fraud is alleged but otherwise will be honored.

Information about manuscripts (including their receipt, content, status in the reviewing process, criticism by reviewers, or ultimate fate) will not be disclosed to anyone other than the authors and reviewers. This includes requests to use the materials for legal proceedings.

Reviewer comments should not be published or otherwise made public without permission of the reviewer, author, and editor.

The reviewers' identity will not be revealed to the author or anyone else without the reviewer's permission.

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When reporting experiments on human subjects, authors should indicate whether the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000. If doubt exists whether the research was conducted in accordance with the Helsinki Declaration, the authors must explain the rationale for their approach, and demonstrate that the institutional review body explicitly approved the doubtful aspects of the study. When reporting experiments on animals, authors should be asked to indicate whether the institutional and national guide for the care and use of laboratory animals was followed.

III. Publishing and Editorial Issues Related to Publication in Biomedical Journals

III.A. Obligation to Publish Negative Studies

Editors will consider seriously for publication any carefully done study of an important question, relevant to readers, whether the results are negative (that is, convincingly allow the null hypothesis to be accepted) or positive (that is, allow the null hypothesis to be rejected).

III.B. Corrections, Retractions and "Expressions of Concern"

Editors assume initially that authors are reporting work based on honest observations. Nevertheless, two types of difficulty may arise.

First, errors may be noted in published articles that require the publication of a correction or erratum of part of the work. The corrections will appear on a numbered page, be listed in the contents page, include the complete original citation, and link to the original article and vice versa online. It is conceivable that an error could be so serious as to vitiate the entire body of the work, but this is unlikely and will be handled by editors and authors on an individual basis. Such an error should not be confused with inadequacies exposed by the emergence of new scientific information in the normal course of research. The latter requires no corrections or withdrawals.

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The retraction or expression of concern, so labeled, will appear on a numbered page in a prominent section of the print journal as well as in the online version, be listed in the contents page, and included in its heading the title of the original article. It will not simply be a letter to the editor. Ideally, the first author will be the same in the retraction as in the article, although under certain circumstances the editor may accept retractions by other responsible persons. The text of the retraction should explain why the article is being retracted and include a full original citation reference to it.

The validity of previous work by the author of a fraudulent paper cannot be assumed. Editors may ask the author's institution to assure them of the validity of earlier work published in their journals or to retract it. If this is not done editors may choose to publish an announcement expressing concern that the validity of previously published work is uncertain.

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The copyright status of articles in a given journal can vary: some content cannot be copyrighted (articles written by employees of the governments in the course of their work, for example).

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Redundant (or duplicate) publication is publication of a paper that overlaps substantially with one already published in print or electronic media.

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reasons, in the same or another language, especially in other countries and/or states, is justifiable, and can be beneficial, provided all of the following conditions are met.

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2. The priority of the primary publication is respected by a publication interval of at least one week.
3. The paper for secondary publication is intended for a different group of readers; an abbreviated version could be sufficient.
4. The secondary version faithfully reflects the data and interpretations of the primary version.
5. The footnote on the title page of the secondary version informs readers, peers, and documenting agencies that the paper has been published in whole or in part and states the primary reference. A suitable footnote might read: "This article is based on a study first reported in the [title of journal, with full reference]."

   Permission for such secondary publication should be free of charge.
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III.D.4. Competing Manuscripts Based on the Same Study

Two kinds of competing submissions will be considered: submissions by coworkers who disagree on the analysis and interpretation of their study, and submissions by coworkers who disagree on what the facts are and which data should be reported.

Setting aside the unresolved question of ownership of the data, the following general observations may help editors and others dealing with these problems.

III. D.4.a. Differences in Analysis or Interpretation

If the dispute centers on the analysis or interpretation of data, the authors should submit a manuscript that clearly presents both versions. The difference of opinion should be explained in a cover letter. The normal process of peer and editorial review of the manuscript may help the authors to resolve their disagreement regarding analysis or interpretation.

If the dispute cannot be resolved and the study merits publication, both versions will be published. Options include publishing two papers on the same study, or a single paper with two analyses or interpretations. In such cases it would be appropriate for the editor to publish a statement outlining the disagreement and the journal's involvement in attempts to resolve it.

III.D.4. b. Differences in Reported Methods or Results

If the dispute centers on differing opinions of what was actually done or observed during the study, the journal editor will refuse publication until the disagreement is resolved. Peer review cannot be expected to resolve such problems. If there are allegations of dishonesty or fraud, editors will inform the appropriate authorities; authors will be notified of editor's intention to report a suspicion of research misconduct.

III.D.5. Competing Manuscripts Based on the Same Database

Editors may sometimes receive manuscripts from separate research groups that have analyzed the same data set, e.g., from a public database. The manuscripts may differ in their analytic methods, conclusions, or both. Each manuscript will be considered separately. Where interpretations of the same data are very similar, it is reasonable but not necessary for editors to give preference to the manuscript that was received earlier. However, editorial consideration of multiple submissions may be justified in this circumstance, and there may even be a good reason for publishing more than one manuscript because different analytical approaches may be complementary and equally valid.

III.E. Correspondence

As a mechanism for submitting comments, questions, or criticisms about published articles, as well as brief reports and commentary unrelated to previously published articles. This will likely, but not necessarily, take the form of a correspondence section or column. The authors of articles discussed in correspondence should be given an opportunity to respond, preferably in the same issue in which the original correspondence appears. Authors of correspondence will be asked to declare any competing or conflicting interests.

Published correspondence may be edited for length, grammatical correctness, and journal style.

Although editors have the prerogative to sift out correspondence material that is irrelevant, uninteresting, or lacking in cogency, they have a responsibility to allow a range of opinion to be expressed. The correspondence column will not be used merely to promote the journal's, or the editors', point of view. In all instances, editors will make an effort to screen out discourteous, inaccurate, or libelous statements.

In the interests of fairness and to keep correspondence within manageable proportions, journal may want to set time limits for responding to articles and correspondence, and for debate on a given topic. Journal has also set policy with regard to the archiving of unedited correspondence that appears on line. These policies should be published both in print and electronic versions of the journal.

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Supplements are collections of papers that deal with related issues or topics, are published as a separate issue of the journal or as part of a regular issue, and are usually funded by sources other than the journal's publisher. Supplements can serve useful purposes: education, exchange of research information, ease of access to focused content, and improved cooperation between academic and corporate entities. Because funding sources can bias the content of supplements through the choice of topics and viewpoints, this journal adopts the following principles. These same principles apply to theme issues or special series that have external funding and/or guest editors.

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IV. Manuscript Preparation and Submission

IV.A. Preparing a Manuscript for Submission

Editors and reviewers spend many hours reading manuscripts, and therefore appreciate receiving with manuscripts that are easy to read and edit. Much of the information in journals' instructions to authors is designed to accomplish that goal in ways that meet each journal's particular editorial needs. The guidance that follows provides a general background and rationale for preparing manuscripts for any journal.

IV.A.1.a. General Principles

The text of observational and experimental articles is usually (but not necessarily) divided into sections with the headings Introduction, Methods,

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Publication in electronic formats has created opportunities for adding details or whole sections in the electronic version only, layering information, cross-linking or extracting portions of articles, and the like. Authors need to work closely with editors in developing or using such new publication formats and should submit material for potential supplementary electronic formats for peer review.

Double spacing of all portions of the manuscript including the title page, abstract, text, acknowledgments, references, individual tables, and legends-and generous margins make it possible for editors and reviewers to edit the text line by line, and add comments and queries, directly on the paper copy. If manuscripts are submitted electronically, the files should be double spaced, because the manuscript may need to be printed out for reviewing and editing.

During the editorial process reviewers and editors frequently need to refer to specific portions of the manuscript, which is difficult unless the pages are numbered. Authors should therefore number all of the pages of the manuscript consecutively, beginning with the title page.

IV.A.1.b. Reporting Guidelines for Specific Study Designs

Research reports frequently omit important information. The general requirements listed in the next section relate to reporting essential elements for all study designs. Authors are encouraged in addition to consult reporting guidelines relevant to their specific research design. For reports of randomized controlled trials authors should refer to the CONSORT statement. This guideline provides a set of recommendations comprising a list of items to report and a patient flow diagram.

IV.A.2. Title Page

The title page should carry the following information:

1. The title of the article. Concise titles are easier to read than long, convoluted ones. Titles that are too short may, however, lack important information, such as study design (which is particularly important in identifying randomized controlled trials). Authors should include all information in the title that will make electronic retrieval of the article both sensitive and specific.
2. Authors' names and institutional affiliations.
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9. The number of figures and tables. It is difficult for editorial staff and reviewers to tell if the figures and tables that should have accompanied a manuscript were actually included unless the numbers of figures and tables that belong to the manuscript are noted on the title page.

IV.A.3. Conflict of Interest Notification Page

To prevent the information on potential conflict of interest for authors from being overlooked or misplaced, it is necessary for that information to be

part of the manuscript. It should therefore also be included on a separate page or pages immediately following the title page.

IV.A.4. Abstract and Key Words

An abstract should follow the title page. The abstract should provide the context or background for the study and should state the study's purposes, basic procedures (selection of study subjects or laboratory animals, observational and analytical methods), main findings (giving specific effect sizes and their statistical significance, if possible), and principal conclusions. It should emphasize new and important aspects of the study or observations.

Because abstracts are the only substantive portion of the article indexed in electronic database and the only portion many readers read, authors need to be careful that abstracts reflect the content of the article accurately.

3 to 10 key words or short phrases that capture the main topics of the article. These will assist indexers in cross-indexing the article and may be published with the abstract. Terms from the Medical Subject Headings (MeSH) list of Index Medicus should be used; if suitable MeSH terms are not yet available for present terms may be used.

IV.A.5. Introduction

Provide a context or background for the study (i.e., the nature of the problem and its significance). State the specific purpose or research objective of, or hypothesis tested by, the study or observation; the research objective is often more sharply focused when stated as a question. Both the main and secondary objectives should be made clear, and any pre-specified subgroup analyses should be described. Give only strictly pertinent references and do not include data or conclusions from the work being reported.

IV.A.6. Methods

The Methods section should include only information that was available at the time the plan or protocol for the study was written; all information obtained during the conduct of the study belongs in the Results section.

IV.A.6.a. Selection and Description of Participants

Describe your selection of the observational or experimental participants (patients or laboratory animals, including controls) clearly, including eligibility and exclusion criteria and a description of the source population. Because the relevance of such variables as age and sex to the object of research is not always clear, authors should explain their use when they are included in a study report; for example, authors should explain why only subjects of certain ages were included or why women were excluded. The guiding principle should be clarity about how and why a study was done in a particular way. When authors use variables such as race or ethnicity, they should define how they measured the variables and justify their relevance.

IV.A.6.b. Technical information

Identify the methods, apparatus (give the manufacturer's name and address in parentheses), and procedures in sufficient detail to allow other workers to reproduce the results. Give references to established methods, including statistical methods see below; provide references and brief descriptions for methods that have been published but are not well known; describe new or substantially modified methods, give reasons for using them, and evaluate their limitations. Identify precisely all drugs and chemicals used, including generic name(s), dose(s), and route(s) of administration.

Authors submitting review manuscripts should include a section describing the methods used for locating, selecting, extracting, and synthesizing data. These methods should also be summarized in the abstract.

IV.A.6.c. Statistics

Describe statistical methods with enough detail to enable a knowledgeable reader with access to the original data to verify the reported results. When possible, quantify findings and present them with appropriate indicators of measurement error or uncertainty (such as confidence intervals). References for the design of the study and statistical methods should be to standard works when possible (with pages stated). Define statistical terms, abbreviations, and most symbols. Specify the computer software used.

IV.A.7. Results

Present your results in logical sequence in the text, tables, and illustrations, giving the main or most important findings first. Do not repeat in the text all the data in the tables or illustrations; emphasize or summarize only important observations. Extra or supplementary materials and technical detail can be placed in an appendix where it will be accessible but will not interrupt the flow of the text; alternatively, it can be published only in the electronic version of the journal.

When data are summarized in the Results section, give numeric results not only as derivatives (for example, percentages) but also as the absolute numbers from which the derivatives were calculated, and specify the statistical methods used to analyze them. Restrict tables and figures to those needed to explain the argument of the paper and to assess its support. Use graphs as an alternative to tables with many entries; do not duplicate data in graphs and tables. Avoid non-technical uses of technical terms in statistics, such as "random" (which implies a randomizing device), "normal," "significant," "correlations," and "sample."

Where scientifically appropriate, analyses of the data by variables such as age and sex should be included.

IV.A.8. Discussion

Emphasize the new and important aspects of the study and the conclusions that follow from them. Do not repeat in detail data or other material given in the Introduction or the Results section. For experimental studies it is useful to begin the discussion by summarizing briefly the main findings, then explore possible mechanisms or explanations for these findings, compare and contrast the results with other relevant studies, state the limitations of the study, and explore the implications of the findings for future research and for clinical practice.

Link the conclusions with the goals of the study but avoid unqualified statements and conclusions not adequately supported by the data. In particular, authors should avoid making statements on economic benefits and costs unless their manuscript includes the appropriate economic data and analyses. Avoid claiming priority and alluding to work that has not been completed. State new hypotheses when warranted, but clearly label them as such.

IV.A.9. References

IV.A.9.a. General Considerations Related to References

Although references to review articles can be an efficient way of guiding readers to a body of literature, review articles do not always reflect original work accurately. Readers should therefore be provided with direct references to original research sources whenever possible. On the other hand, extensive lists of references to original work on a topic can use excessive space on the printed page. Small numbers of references to key original papers will often serve as well as more exhaustive lists, particularly since references can now be added to the electronic version of published papers, and since electronic literature searching allows readers to retrieve published literature efficiently.

Avoid using abstracts as references. References to papers accepted but not yet published should be designated as "in press" or "forthcoming"; authors should obtain written permission to cite such papers as well as verification that they have been accepted for publication. Information from manuscripts submitted but not accepted should be cited in the text as "unpublished observations" with written permission from the source.

Avoid citing a "personal communication" unless it provides essential information not available from a public source, in which case the name of the person and date of communication should be cited in parentheses in the text. For scientific articles, authors should obtain written permission and confirmation of accuracy from the source of a personal communication.

Some journals check the accuracy of all reference citations, but not all journals do so, and citation errors sometimes appear in the published version of articles. To minimize such errors, authors should therefore verify references against the original documents. Authors are responsible for checking that none of the references cite retracted articles except in the context of referring to the retraction. For articles published in journals indexed in MEDLINE, the ICMJE considers PubMed the authoritative source for information about retractions.

IV.A.9.b. Reference Style and Format

The Uniform Requirements style is based largely on an ANSI standard style adapted by the National Library of Medicine (NLM) for its databases. For samples of reference citation formats, authors should consult National Library of Medicine web site.

References should be numbered consecutively in the order in which they are first mentioned in the text. Identify references in text, tables, and legends by Arabic numerals in parentheses. References cited only in tables or figure legends should be numbered in accordance with the sequence established by the first identification in the text of the particular table or figure. The titles of journals should be abbreviated according to the style used in Index Medicus.

This Journal requires that the references from the Ayurvedic classics should be cited within parentheses in the text, i.e. (Cha. Soo. 25/40).

IV.A.10. Tables

Tables capture information concisely, and display it efficiently; they also provide information at any desired level of detail and precision. Including data in tables rather than text frequently makes it possible to reduce the length of the text.

Type or print each table with double spacing on a separate sheet of paper. Number tables consecutively in the order of their first citation in the text and supply a brief title for each. Do not use internal horizontal or vertical lines. Give each column a short or abbreviated heading. Authors should place explanatory matter in footnotes, not in the heading. Explain in footnotes all nonstandard abbreviations. For footnotes use the following symbols, in sequence:

***,†,‡,§,||,¶,**,††,‡‡**

Identify statistical measures of variations, such as standard deviation and standard error of the mean.

Be sure that each table is cited in the text.

If you use data from another published or unpublished source, obtain permission and acknowledge them fully.

Additional tables containing backup data too extensive to publish in print may be appropriate for publication in the electronic version of the journal. In that event an appropriate statement will be added to the text. Submit such tables for consideration with the paper so that they will be available to the peer reviewers.

IV.A.11. Illustrations (Figures)

Figures should be either professionally drawn and photographed, or submitted as photographic quality digital prints. In addition to requiring a version of the figures suitable for printing, this Journal asks authors for electronic files of figures in a format (e.g., JPEG or GIF) that will produce high quality images in the web version of the journal; authors should review the images of such files on a computer screen before submitting them, to be sure they meet their own quality standard.

For x-ray films, scans, and other diagnostic images, as well as pictures of pathology specimens or photomicrographs, send sharp, glossy, black-and-white or color photographic prints, usually 127 x 173 mm (5 x 7 inches). Letters, numbers, and symbols on Figures should be clear and even throughout, and of sufficient size that when reduced for publication each item will still be legible. Figures should be made as self-explanatory as possible. Titles and detailed explanations belong in the legends, however, not on the illustrations themselves.

Photomicrographs should have internal scale markers. Symbols, arrows, or letters used in photomicrographs should contrast with the background.

If photographs of people are used, either the subjects must not be identifiable or their pictures must be accompanied by written permission to use the photograph. Whenever possible permission for publication should be obtained.

Figures should be numbered consecutively according to the order in which they have been first cited in the text. If a figure has been published, acknowledge the original source and submit written permission from the copyright holder to reproduce the material. Permission is required irrespective of authorship or publisher except for documents in the public domain.

IV.A.12. Legends for Illustrations (Figures)

Type or print out legends for illustrations

using double spacing, starting on a separate page, with Arabic numerals corresponding to the illustrations. When symbols, arrows, numbers, or letters are used to identify parts of the illustrations, identify and explain each one clearly in the legend. Explain the internal scale and identify the method of staining in photomicrographs.

IV.A.13. Units of Measurement

Use only standard Units of Measurements. If some new measurements or scoring patterns are used they should be explained in detail in the text.

IV.A.14. Abbreviations and Symbols

Use only standard abbreviations; the use of non-standard abbreviations can be extremely confusing to readers. Avoid abbreviations in the title. The full term for which an abbreviation stands should precede its first use in the text unless it is a standard unit of measurement.

IV.B Sending the Manuscript to the Journal

This Journal accepts electronic submission of manuscripts, whether on disk or attachments to electronic mail. Electronic submission saves time as well as postage costs, and allows the manuscript to be handled in electronic form throughout the editorial process (for example, when it is sent out for review). When submitting a manuscript electronically, authors should consult with the instructions for authors of the journal they have chosen for their manuscript.

If a paper version of the manuscript is submitted, send the required number of 6 copies of the manuscript and figures; they are all needed for peer review and editing, and editorial office staff cannot be expected to make the required copies.

Manuscripts must be accompanied by a cover letter, which should include the following information.

- A full statement to the editor about all submissions and previous reports that might be regarded as redundant publication of the same or very similar work. Any such work should be referred to specifically, and referenced in the new paper. Copies of such material should be included with the submitted paper, to help the editor decide how to handle the matter.
- A statement of financial or other relationships that might lead to a conflict of interest, if that information is not included in the manuscript itself or in an authors' form
- A statement that the manuscript has been read and approved by all the authors, that the requirements for authorship as stated earlier in this document have been met, and that each author believes that the manuscript represents honest work, if that information is not provided in another form; and
- The name, address, and telephone number of the corresponding author, who is responsible for communicating with the other authors about revisions and final approval of the proofs, if that information is not included on the manuscript itself.

The letter should give any additional information that may be helpful to the editor, such as the type or format of article in the particular journal that the manuscript represents. If the manuscript has been submitted previously to another journal, it is helpful to include the previous editor's and reviewers' comments with the submitted manuscript, along with the authors' responses to those comments. Editors encourage authors to submit these previous communications and doing so may expedite the review process.

Copies of any permission to reproduce published material, to use illustrations or report information about identifiable people, or to name people for their contributions must accompany the manuscript.

V. References

A. References Cited in this Document

1. Davidoff F for the CSE Task Force on Authorship. Who's the Author? Problems with Biomedical Authorship, and Some Possible Solutions. Science Editor. July-August 2000: Volume 23 - Number 4: 111-119.
2. Yank V, Rennie D. Disclosure of researcher contributions: a study of original research articles in The Lancet. Ann Intern Med. 1999 Apr 20;130(8):661-70.
3. Flanagin A, Fontanarosa PB, DeAngelis CD. Authorship for research groups. JAMA. 2002;288:3166-68.
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7. Patrias K. National Library of Medicine recommended formats for bibliographic citation. Bethesda (MD): The Library; 1991.

B. Other Sources of Information Related to Biomedical Journals

World Association of Medical Editors (WAME) www.WAME.org <http://www.WAME.org>

Council of Science Editors (CSE) www.councilscienceeditors.org <http://www.councilscienceeditors.org>

European Association of Science Editors (EASE) www.ease.org.uk <http://www.ease.org.uk>

Cochrane Collaboration www.cochrane.org <http://www.cochrane.org>

The Mulford Library, Medical College of Ohio www.mco.edu/lib/instr/libinsta.html <http://www.mco.edu/lib/instr/libinsta.html>

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Contributions are invited in the form of :

Research Papers– *Randomized trials, intervention studies, studies of screening and diagnostic tests, cohort studies, cost-effectiveness analyses, and case control studies.*

Short Communications– *Brief accounts of descriptive studies, initial/partial results of a larger trial, and a series of cases;*

Correspondence– *Letters commenting upon recent articles in Journal of Ayurveda, other topics of interest or useful clinical observations. Debate on important issues such as those raised in the editorial forum are most welcome.*

Images in practice– *Interesting and original images which are worth a thousand words and help understand a particular concept. Images should accompany a certificate of ownership.*

A major criteria for acceptance of an article will be addition to existing knowledge and as such manuscripts are required to include 'what this study adds'.

2 copies of Books may be sent for book review section.

Annexure I

Manuscript no. JOA/NIA/20 /

Authorship Criteria and Responsibility
Financial Disclosure, Acknowledgment and Copyright Transfer Form

Manuscript Title :

I/We certify that the manuscript represents valid work and that neither this manuscript nor one with substantially similar content under my/our authorship has been published or is being considered for publication elsewhere. For papers with more than 1 author, We agree to allow the corresponding author to serve as the primary correspondent with the editorial office, to review the edited typescript and proof.

I/We have seen and approved the submitted manuscript. All of us have participated sufficiently in the work to take public responsibility for the contents. All the authors have made substantial contributions to the intellectual content of the paper and fulfil at least 1 condition for each of the 3 categories of contributions: i.e., Category 1 (conception and design, acquisition of data, analysis and interpretation of data), Category 2 (drafting of the manuscript, critical revision of the manuscript for important intellectual content) and Category 3 (final approval of the version to be published).

I/We also certify that all my/our affiliations with or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript are completely disclosed on the title page of the manuscript. My/our right to examine, analyze, and publish the data is not infringed upon by any contractual agreement. I/We certify that all persons who have made substantial contributions to the work reported in this manuscript (e.g., data collection, writing or editing assistance) but who do not fulfil the authorship criteria are named along with their specific contributions in an acknowledgment section in the manuscript. If an acknowledgment section is not included, no other persons have made substantial contributions to this manuscript. I/We also certify that all persons named in the acknowledgment section have provided written permission to be named.

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Authors' name(s) in order of appearance in the manuscript.

1. Name	Signatures	(date)
2. Name	Signatures	(date)
3. Name	Signatures	(date)
4. Name	Signatures	(date)
5. Name	Signatures	(date)
6. Name	Signatures	(date)

Annexure II

Manuscript Submission Checklist

Submitted by: E-mail ☐ Post ☐ Both ☐

Covering letter and submission :

1. Covering letter (in original) ☐
2. Copyright transfer form (in original) ☐
3. Illustrations (in original) ☐
4. Manuscript (E-mail/original) ☐
5. Category for which submitted ☐

Presentation and Format :

1. Printed on A4 paper with 1" margins on all sides in double space. ☐
2. Abstract, text, acknowledgement, references, legends, tables starting on a new page. ☐
3. Title page contains the following:
   - Full title of the paper ☐
   - Initials, surname and highest degree of authors, affiliation ☐
   - Name of Departments/Institution ☐
   - Details of Corresponding Authors including e-mail ☐
   - Numbers in Arabic numerals. ☐
4. Abstract (Hindi and English) and Key words provided. ☐
5. “What this study adds” Box (only for research papers and short communications). ☐
6. References. ☐
7. Pages numbered consecutively. ☐

Language and Grammar :

1. Uniform American English. ☐
2. Abbreviations spelt out in full for first time. ☐
3. Text arranged as per IMRAD format. ☐
4. Follows style of writing in Journal of Ayurveda. ☐
5. Conventional units used throughout manuscript. ☐

Tables and Figures :

1. No repetition of data in Table/graphs and in text. ☐
2. Figures are black and white (except Images), good quality; with labels on back. ☐
3. Table numbers in roman numerals and Figure numbers in Arabic numerals. ☐
4. Correct symbols used for footnotes to tables. ☐
5. Figure legends provided. ☐
6. Patient privacy maintained ☐

Short Communication

AYURVEDA NEWS AND VIEWS

Dr. Rizwana Parveen

National & International Seminars

- Workshop on "Stress Management and Joyful Living", organized by Public Health Foundation of Bangladesh. Date : April and December 2014.
- Conference on Good Clinical Practice, organized by Maharashtra University of Health Sciences, Nashik. Date : 5th April,2014.
- National Level CME on "Recent advances in Diagnosis of Sandhivata", organized by Mahatma Gandhi Ayurved College Hospital and Research Centre, Wardha. Date : 7th April,2014.
- Workshop on Al-Hijamah (Cupping Therapy), organized by Holistic Health Care and Research Organization. Date : 12th and 13th April,2014
- Two days Conference "Mind, Medicine & Meditation: an evidence-based update"(MMMCON 2014), organized by All India Institute of Medical Sciences , New Delhi. Date : 15th and 16th April,2014.
- Amrutakala-2014-National Colloquium on Dooshi visha(Cumulative Toxicity), organized by SDM College of Ayurveda, Hassan, Karnataka. Date : 18th and 19th April 2014.
- National Colloquium on Dooshi Visha(Cumulative Toxicity) - Amrutakala-2014, organized by Sri Dharmasthala Manjunatheshwara College of Ayurveda & Hospital, Karnataka. Date : 19th and 20th April, 2014.
- National Seminar and Workshop on Sutika Paricharya-PRAJATHA-2014, organized by SDM College of Ayurveda, Hassan, Karnataka. Date : 22nd and 23rd April 2014.
- National Seminar and Workshop - "PRAJATHA 2014" on Sutika Paricharya, organized by Sri Dharmasthala Manjunatheshwara College of Ayurveda & Hospital, Karnataka. Date : 22nd and 23rd April, 2014.
- International Convention on Ayurved, organized by Kankayan Foundation Bambavade. Date : 23rd to 25th April 2014.
- National Workshop on Pathyahara : A Practical Approach - Swastha Kalpana-2014, organized by Sri Dharmasthala Manjunatheshwara College of Ayurveda & Hospital, Karnataka. Date : 9th and 10th May 2014
- National Level Seminar Ayurmunthan - 2014, organized by School of Ayurveda, Desh Bhagat University, Punjab. Date : 8th to 9th May 2014.
- International Seminar "Ayurveda for All", organized by Tathagat Ayurveda Research Foundation Pune and Ayush Darpan Health Magazine. Date : 17th and 18th May 2014.
- Ayurveda Expo 2014, organized by ASSOCHAM and Department of Ayurveda, Central Province and the Central Provincial Council, Government of Sri Lanka. Date : 22nd to 24th May 2014.
- National Level Workshop "SHAAREERA 2014" on Clinical Approach Towards Marma, organized by Alva's Ayurveda Medical College, Moodbidri. Date : 28th and 29th May 2014.
- National Ayurveda Conference 2014 "Chikitsitam" The Application of Textual References in Clinical Practice, organized by Alva's Ayurveda Medical College, Moodbidri. Date:30th and 31st May 2014.
- 3rd Ayuns International Ayurvedic Conference, organized by Ayurved & Naturopathy Association of Bangladesh. Date : June 2014.
- CME in Dravyaguna, Sponsored by Dept of AYUSH, Ministry of Health & Family Welfare, Govt of India being held at JSS Ayurveda Medical College, Mysore. Date : 2nd to 7th June, 2014.
- Uttishtha e-Education Expo 2014 Ahmedabad, Gujarat. Date : 06th to 09th June, 2014.
- Continuing Medical Education (CME) Programme In Dravyaguna, organized by Dept. of Dravyaguna,Shri J.G.C.H.S. Ayurvedic Medical College, Ghataprabh, Karnataka. Date : 09th to 14th June, 2014.

*Research Fellow-Journal of Ayurveda, NIA, Jaipur

- Workshop on Personality development and Career Building 2014, Vishwa Ayurveda Parishad, Rajasthan. Date : 14th to 21st June, 2014
- 10th CME on Psoriasis, organized by Maharashtra Association of Ayurved Students & Doctors(MAASD) Mumbai Branch. Date : 15th June, 2014.
- National Workshop on Modern Scientific Techniques for Indian Systems of Medicine & Natural Products Development, organized by The AU-KBC Research Centre, Chennai. Date : 17th to 21st June, 2014.
- Indo-Global Healthcare Summit & Expo 2014 on Innovations and Advances, jointly organized by Indian Medical Association, The Government of Andhra Pradesh, The Federation of AP Chambers of Commerce and Industry and The Indus Foundation. Date : 20th to 22nd June, 2014
- Six Days CME in Kayachikitsa, organized by G.J. Patel Ayurveda College and Research Centre, Anand, Gujarat. Date : 30th June to 05 July, 2014

Ayurveda for Kids

Whoever we are: parents, grandparents, other elder relatives or simple well-wishers, we want to see our kids healthy. One of the eight branches of Ayurveda is pediatrics (Bala Tantra). It teaches some simple natural wisdom to keep our little ones happy and healthy.

Here are the key rules:

- **Consistent daily routine.**

Waking up early, going to bed early and eating with nature's rhythms, when the main meal of the day is consumed while the Sun is on its highest providing us with good digestive fire are foundation of good health.

Consistency gives a child a sense of security and confidence and reduces stress.

- **Warm oil massage**

A daily Abhyanga (warm oil massage) before bath time boosts children's immunity, calms the nervous system and provides a layer of protection from germs.

These few minutes of loving touch enhances the bonding and affection that kids seek.

- **Freshly cooked, wholesome meals.**

Feed kids warm nourishing meals like hot cereal, vegetable soups and kitchari (thin warm dish with rice and green or yellow mung beans). Such food is highly nutritious and easy to digest. Small pinches of digestive spices like cumin, coriander, fennel, cinnamon, and turmeric will clear any possible toxins.

- **Honey and ginger immunity enhancer (for kids 1 and older).**

Raw organic honey helps to expectorate excess mucus, while ginger juice keeps digestive fire (agni) strong. A daily teaspoon of this combination with a pinch of turmeric can ward off common colds, flus, and allergies.

- **Warm milk.**

Ayurveda values the ojas (life strength) producing qualities of milk. Like the Sun helps digest heavy meals at noon, the Moon easily assimilates milk, if taken warm after 6 pm. The amount should be found practically. Cook organic, non-homogenized, whole milk with spices like cardamom, fennel, nutmeg, saffron, or ginger, add organic date sugar by taste and a dab of Clarified butter. Start with ¼ cup of this potion before bed. If there is mucus in the throat, eyes, or nose of your child the next morning, cut off the dosage by half. Disturbed sleep and imbalanced emotions indicate that the dosage has to be increased.

Warm milk strengthens not only our kids' body, it gives a boost to their intellect as well.

- **Protecting of emotions.**

Overstimulation from TV, computer, video games, and commercial leaves lasting impressions on kid's minds. These assaults go deep into the psyche and disturb their life force (prana), affecting emotional and spiritual growth of our loved ones. Since they can't control themselves it is our duty to protect their delicate sensory organs. Even newborns when being in the room where an adult movie is running get their senses offended.

- **Free play.**

Playing with children develops their creativity

and imagination, while their souls are satisfied by the love and attention they crave from us. He or she will remember for their life not the plenty of toys and videogames we bought them, but a simple game outdoors when you played and laughed together.

Kids live in a Kapha period of life no matter what their constitution is. That means that they will be prone to Kapha diseases like cold, cough and other respiratory disorders. Follow the above immunity enhancing measures and remember that sometimes a disease is a call for attention and love in both kids and adults.

Five must-have herbs for a strong immune system

A weak immune system is the root cause of infection and diseases. Here are a few immune building herbs, which, you could keep as 'must-haves' at home. They help strengthen the immune system thereby keeping chances of infections very minimal.

Ashwagandha

It goes without saying thatAshwagandha is one of the best immune building herbs. It is well-known for its immune building properties. It helps fight stress by balancing the stress hormone ('cortisol') levels. It prevents the depletion of Vitamin C when under stress and is superior to Ginseng as a stress-fighting adaptogen. Ashwagandha is an adaptogen which boosts immunity and through regular use, helps rejuvenate the body from years of exhaustive stress.

Ashwagandha root can be pounded and taken in a dose of 3 to 6gms along with a glass of warm and sweetened cow's milk. It is also available in capsule form in ayurvedic pharmacies.

Tulsi

Tulsi is called 'Holy Basil' and is a powerful adaptogen which should be taken daily either in its raw form or as tea or in capsule form. Tulsi reduces stress, strengthes immune system, helps combat cold and flu symptoms, balances metabolism, promotes calmness and builds stamina. Given its high antioxidant level, Tulsi works as a natural immune-modulator, boosting anti-viral activities in the body. Due to its numerous medicinal values, Tulsi is called 'Queen of Herbs' and 'Morther Medicine of nature'.

Tulsi builds respiratory resistance. Consume fresh tulsi juice made by pounding leaves of the herb twice a day, or add few drops of ginger and honey to this and increase immune building efficiency.

Neem

Neem is known as a 'cure-all' herb, and protects the body from exposure and susceptibility. Neem prevents and fights infection with its antibacterial and antiviral properties. Apart from building immunity, it helps purify blood, supports healthy liver functioning and detoxification. Through regular use, it rejuvenates and nourishes the skin, balances blood sugar levels and boost anti-inflammatory response in the body.

A daily dose of organic Ashwagandha, Tulsi and Neem will help your body fight stress, build immunity and act as daily dose of prevention and protection amidst out demanding lifestyles.

Amla

Amla (Indian Gooseberry) helps reduce all three body humours – vata, pitta and kapha. Although it is not easy for all to eat amla in its raw form, you could consider feasting on its jams or chutneys. Powdered dry amla is available, which can be mixed with honey and consumed twice a day. Else, extract fresh amla juice and add it to salads or with other juices to balance sourness. 'Chyavanprash' has long been associated with building immunity, and it includes amla along with other herbs, and this is a well-known formulation to be taken for long periods as a tonic to good health.

Ginger

Ginger helps in decreasing aggravated vata and kapha doshas, helps fight infections and boost immunity levels. Ginger offers many other health benefits too, apart from boosting immunity. For instance, it is used in hot fomentation in arthritis, gout, oedema, and in treating joint and muscle pain. Ginger fights all types of respiratory disorders like pneumonia, asthma, bronchitis, common cough and cold. Ginger can be had in any form, fresh, dried, powdered or juice.

Five women-friendly Ayurvedic herbs

Ayurveda, the ancient Indian herbal system of

medicine has several herbs that are particularly beneficial for women. Ayurveda helps women in finding their body rhythm, which is closely linked to nature. Due to this, women generally respond better to ayurvedic treatments. These herbs and medicinal plants, apart from improving health of women, treat specific health conditions, and are prescribed either individually or in combination by physicians.

Amalaki

Also known as gooseberry, Amalaki is used extensively to treat several health conditions in both men and women like dyspepsia, gastritis, hyperacidity, hepatitis, constipation, colitis, haemorrhoids, cough, fever, asthma, skin diseases, gout, diabetes, cardiovascular diseases, cancer, palpitations, vertigo etc.

However, it is considered women-friendly, as it treats several health issues in women like menorrhagia, anaemia, osteoporosis, premature greying, alopecia, asthenia, leucorrhoea, and is post-partum restorative.

A fresh juice of amalaki with amalaki churna can also be taken with ghee and honey as an aphrodisiac too.

Ashoka

Ashoka is considered to be beneficial for women, as it stimulates the utereus making contractions frequent and prolonged without producing tonic contractions. It has been helpful in uterine hemorrhagic conditions like 'menorrhagi'a and 'metrorrahagia'. 'Ashokarista' is an extract of this herb, and when taken together with other herbs in the market, it is useful in conditions like dysmenorrhea, bleeding due to dysfunction of uterus, etc. Decoction of the bark of Ashoka mixed with cold milk may be an excellent remedy for irregular menstrual cycles and other bleeding disorders. It should however, be taken under the guidance of ayurvedic physician.

Shatavari

Shatavari comprises triterpene saponnins shatavarin I-IV that are phytoestrogen compounds. They help in balancing the female hormone levels. The oestrogen hormone is of plant origin and has strong stabilizing and rejuvenating effect on both mind and body. Given this unique property, it helps in treating Pre-Menstrual Symptoms (PMS), dysmenorrhea, infertility, irregular menstrual cycle, menopause and lactation. Shatavari is particularly beneficial for menopausal women with low oestrogen levels, as it has phytoestrogens.

The granules prepared with purified root powder of Shatavari, when taken with warm milk, improves lactation. When Shatavari powder is taken with gokshura and amalaki, they reduce oedema during pregnancy.

Licorice

Licorice root extract is a popular herb that helps increase cortisol and oestrogen, while also decreasing testosterone. The presence of excessive testosterone levels, leads to a condition called polycystic ovarian syndrome, which leads to infertility, weight gain and acne. Licorice works well in decreasing testosterone levels in women by 50%. Licorice is sometimes prescribed in combination with other herbs. When taken in large doses, licorice may lead to increased blood pressure, and hence women with high blood pressure, should consult physician and get the dosage altered accordingly.

Ashwagandha

Ashwagandha or the Indian ginseng is the most ancient herb being used in the history of Ayurvedic tradition. It is well-known for its anti-aging properties, treats cognitive disorders, Parkinson's disease, improves white blood cell count during chemotherapy, and the list of health benefits of Ashwagandha goes endless.

But, when it comes to the herb being beneficial for women, Ashwagandha is a promising herb that supports thyroid functioning. Majority of women, irrespective of any age groups are being diagnosed with thyroid problems today, and its associated symptoms like fatigue, fluid retention and weight gain.

Ashwagandha works by supporting functioning of thyroid hormone. In-fact, the herb being a strong antioxidant, protects thyroid tissue by itself and helps in its optimal functioning. Ashwagandha is also an immune modulator, and reduces autoimmune inflammation, the most common cause of under-active thyroid.

Ashwagandha can be taken as fluid extract or in the form of tablet.

Treatment for Urticaria (nettle rash / hives) in Ayurveda

Urticaria, also known as nettle rash or hives is a red, raised itchy skin rash which could possibly be triggered by some allergic reaction or an allergen.

In Ayurveda, this is called 'Shita-Pitta', involving aggravation of kapha and vayu, together with vitiation of pitta. It is considered a vascular reaction of the skin, characterized by transient appearance of elevated patches, which may be red or pale than the surrounding skin, and accompanied by itching.

Causes

Urticaria is thought to be caused due to certain foods, insect bite or sting, contact with irritant such as nettles, chemicals or latex, certain medications, extreme temperatures, sunlight, and water on the skin. However, in most cases, the exact cause of urticaria cannot be found. Urticaria is not contagious, and hence will not pass on to another person.

Ayurveda believes that apart from allergens, taking bath in cold water immediately after exercise when the body is hot, mental excitement, intestinal worms, exposure to cold wind, may also trigger urticaria.

Symptoms

Raised red and white patches occur in parts or all over the body surface and are accompanied by severe itching and irritation. Rarely, the patient may also be constipated, have cold or cough or bronchitis and stomach disorder.

Treatment

'*Haridra* (turmeric)' is a popular household remedy. In India, it is used in curries and is believed to cure urticaria. It can be administered in the form of paste in a dose of two teaspoonfuls twice a day by mixing with water or milk. *'Kamadugha rasa'* which comprising *'gairika'* in large quantities are also given at 0.5gm dosage thrice a day, with honey. Alternatively, *'Suta Shekhara Rasa'* and *'Arogyavardhini Rasa'* can be given thrice daily with honey. For constipation that may accompany this condition, a mild laxative may be suggested.

Some particular prescriptions that may be recommended are 80gm Rasa Sindur, with 4gm *Haridra Khanda*, to be consumed thrice daily with water. 3gm of Arni should be taken with 12 gm of ghee twice a day.

Neem leaves or Neem oil can be taken as supplements during this phase. Adults can take triphala tablets at night before going to bed to help a clear bowel.

Few other ayurvedic medications recommended are Panch tikt ghrit guggul (500mg twice a day), Giloye (500mg twice a day), Tiktshatapalghrit (twice a day), Swarn Gairic (5grains thrice daily with water or honey), Kaishore guggulu (2tablets twice a day), Khadirarishta (3tsf with equal amount of water twice daily after meals).

For external application, rub the patient with mustard oil, mixed with rock-salt powder.

In case, it has been found that the cause of urticaria is due to intestinal worms, then, they should be treated first, else, the problem recurs.

Short Communication

INSTITUTE NEWS

*N.N. Kutty**

2 Experts from Spain visited the Institute as part of their feasibility study of various parts of India on improving competetiveness, benefit of higher education curriculum, increase degree recognition at the international level and ascertain the strategic objectives of India Higher Education System. They were (1) Dr. Johanna Van Bruggen, Coordinator of a Teacher Training Project in Occupational Therapy for Romanian and (2) Assistant Professor, Director of Studies, MA Erasmus Mundus in Euroculture & Department of Modern Languages, Faculty of Social and Human Sciences, University of Deusto. They were highly impressed with the activities of the Institute in the field of Education, Training, Patient Care and Research of PG and Ph.D. and were very keen to visit the Institute again with their team.

Shri Nilanjan Sanyal, Secretary(AYUSH) chaired a Meeting of DPC for Promotion to 2 Posts of Professor. On the recommendation of the DPC and due approval of President, Governing Body (Hon'ble Union Minister of State for AYUSH), Dr. Ram Kishore Joshi and Dr. Mita Kotecha were promoted to the Posts of Professor in Kayachikitsa and Dravya Guna, respectively.

Prof. Ajay Kumar Sharma retired as Director of the Institute on superannuation on 31-5-2014. He was given warm farewell by the Teachers and Staff of the Institute. His contributions in various academic, research and hospital services were recalled in the functions.

Prof. Mahendra Singh Meena, Professor and Head of the Department of Sharir Kriya took over as Director of the Institute on 31-5-2014. He was given a very warm welcome by Teachers and Staff of the Institute.

*Deputy Director (Administration), National Institute of Ayurveda, Jaipur