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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'.

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EDITORIAL

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Clinical Study

Study On Relation Of *Prakriti* With Academic Stress In School Going Children

*Dr. Atika Madhukar, **Dr. Nisha Kumari Ojha, ***Prof. Abhimanyu Kumar

Abstract:

Fast pace of life, highly competitive school environment and parental pressure brought child life cumbersome and full of stress and anxiety. These lead to maladjustment in different spheres of life such as home, social, health, emotion and educational problems. Testing or examination can produce anxiety in students, and can lower student's self-esteem, and increase their fear of failure. Many high school students feel pressured by their parents, teachers and school to achieve high marks. In this present study a relation between *prakriti* and academic stress was assessed for the proper management of academic stress in this competitive world. Children, aged between 10-16 years, for the present study were screened out from OPD of National Institute of Ayurveda, Jaipur and from various schools, situated in Jaipur by survey method. Maximum numbers of patients with Academic stress belonged to *Vata-Pitta Prakriti.*

Key words: *Ayurveda, Prakriti, Academic Stress, Anxiety*

सारांश– जीवन की तेज गति, अत्यधिक प्रतिस्पर्धी स्कूल का वातावरण व माता पिता के दबाव ने बच्चो के जीवन केा बोझिल तनावयुक्त और चिंता से भर दिया है। जिससे पारीवारिक, सामाजिक, स्वास्थ्य और योग्यताइत्यादिजीवनकेविभिन्नक्षेत्रोंमेंअव्यवस्थापैदाहोतीहैं।परीक्षणयापरीक्षाछात्रोंमेंचिंताउत्पादनकर८ 5

छात्रके आत्मसम्मानकोकमकरके असफलताके भय कोऔर बढा सकतेहै।कईउच्चविद्यालयके छात्रअपनेमाता–पिता, ि श ा क ो ं आ ै र स् क ू ल द्व ा र ा उ च् च ा अ ं क प ् ा प् त क र न े क ा द ब ा व म ह स ू स करतेहै।इसप्रतियोगीदुनियामेंशैक्षणिकतनावके उचितप्रबंधनके लिए,इसअध्ययनमें प्रकृतिऔरशैक्षणिकतनावके बीचसंबन्ध कामूल्यांकनकियागया।इसअध्ययनकेलिए, 10–16 वर्षकेबीचआयुवर्ग के बच्चे8 0 रू 5 त्र रू 7 स 5 ? च ? × रू 5 > 0 > / * ं 0 त्र 0 > 7 रू रू 0 ञ्च / – / ं 0 रू 5 त्र × 8 8 रू त्र > (ञ्च * ञ्च ! ञ्च 8 त्र 0 / * ं 0 . त्र 8 रू त्र ? . 5 ? – ? (रू (8 रू क्क 2 च्च 8 त्र / (? .

किए गए। 6 ॥ रू 7 स ? तनावके साथरोगियोंकीअधिकतमसंख्यावात–पित्तप्रकृतिकेथे।

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Clinical Study

Study On Relation Of *Prakriti* With Academic Stress In School Going Children

Dr. Atika Madhukar, Dr. Nisha Kumari Ojha, Prof. Abhimanyu Kumar

Introduction-

Stress is a fundamental component of every one life. It is an unconscious response to a demand or when the demand is perceived as excessive, stress results along with diseases and conditions. Fast pace of life, highly competitive school environment and parental pressure brought child life cumbersome and full of stress and anxiety. These lead to maladjustment in different spheres of life such as home, social, health, emotion and educational problems.

In the classification of anxiety disorders by DSM-IV & ICD-10 showed that Academic stress under the section of Generalized Anxiety Disorder includes overanxious disorder of childhood. Children tend to anxiety and worry excessively about their competence or the quality of their performance at school or in examination.

A seemingly obvious place where stress can manifest itself in children is in school. It is quite common for children to feel some form of stress, anxiety, and uneasiness in school at one time or another. The increase in the amount of homework, competition for good grades, and fear of failure, peer-pressure and bullying are some of the more common reasons for stress in school[1] Anxiety over situations such as answering, and asking questions in class, attending social events, showing assertiveness, and being in front of peers can often times lead to avoidance of many different social situations, including school[2]

Impact Of Academic Stress On Academic Performance

The younger the child, the greater the impact of new events, and the more powerful and potentially negative stress becomes. Stress shows both short- and long-term effects on the functions of the different body system. Neuroendocrine hormones released during stress have major roles in the regulation of both basal homeostasis and responses to threats, and are involved in the pathogenesis of diseases characterized by dyshomeostasis or cacostasis.

Anxiety can be seen as a cause and effect of poor school performance. Students can be overwhelmed which causes anxiety, and then in turn their poor performance can produce more anxiety[3]. Anxiety can interfere with focusing on attention; learning and test taking. According Woolfolk (2007) highly anxious students feel the need to divide their attention between learning the new information being presented while worrying about the evaluation of the information being taught. Many highly anxious students have poor study skills, and if the information being presented are not done so in a well-organized manner the anxiety levels in these students may increase[3]. Further, high levels of corticosterone or chronic stress also impair long-term potentiation (LTP) and facilitate long-term depression (LTD) induced by electrical stimulation in hippocampus[4-5].

The outcome of stress is also determined by the duration and severity of the stressor in addition to the region specificity[6-7]. Acute stressful experience has been found to enhance associative learning[8] in a glucocorticoid-dependent manner[9], while severe or chronic stress has been shown to impair working memory and prefrontal function[10-11].

The concept of prakriti in Ayurveda establishes that every individual is unique. Different Prakriti people show different characteristics including adaptability and tolerance which is true in case of stress also. Ayurveda focuses on individualized approach in terms of health and diseases and when the relation of the Prakriti with illness is known, it becomes much feasible to manage. Present study provides the evidence that which Prakriti children face more academic stress so that the condition can be managed successfully and help

the children to cope up the situation an excel in studies.

Material And Methods

Selection of Cases

- **Source -** Children for the present study were screened out from OPD of National Institute of Ayurveda, Jaipur and from various schools, situated in Jaipur by survey method.
- **Age group -** Children between 10 to 16 years were considered for study.
- **Numbers of cases-** 72 children were registered out of which 12 children discontinued.
- **Grouping of patients-** Selected children were randomly divided into three groups (20 in each) keeping in mind that all the three groups had children from various grades (classes), schools & socio economic strata.

Diagnostic Criteria

Pre-assessment screening of children with Academic stress was done according to Academic Anxiety Scale for Children.

A. Inclusion Criteria

- Children aged between 10-16 years of either sex.
- Children diagnosed under stress.

B. Exclusion Criteria

- Children below 10 years and above 16 years of age.
- Children with physical disability.
- Children with any systemic disorder.
- Children with post-traumatic stress.
- Children with any genetic disorder.
- Children having congenital anomalies.
- Obsessive compulsive disorder.

C. Discontinuation criteria

- Any acute or severe illness.
- Parents not willing to continue the treatment

D. Assessment criteria

- DSM- IV Criteria for Generalized Anxiety Disorder (GAD)

Observation And Result

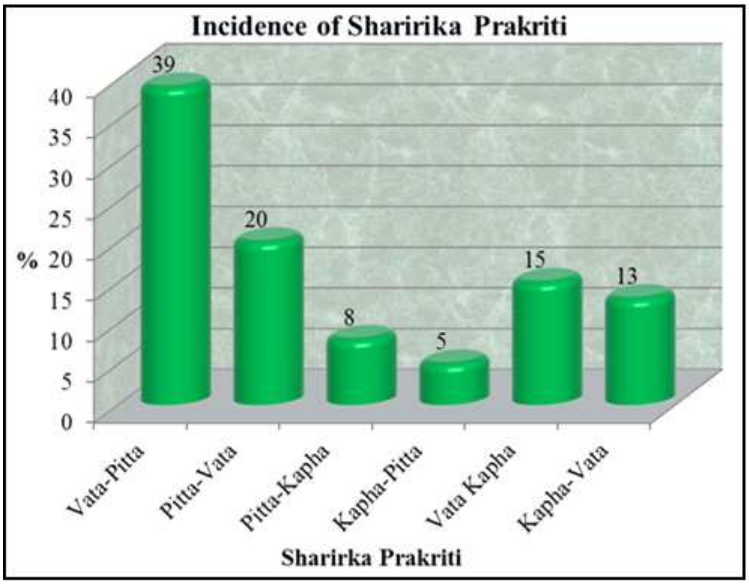
Table No. 1: showing incidence of demographic profile

S.No.	Finding	Predominance	Percent
1.	Age	15-16 years	57.00%
2.	Sex	Female	62.00%
3.	Religion	Hindu	52.00%
4.	Socio-economic status	Lower – middle	38.00%
5.	Diet	Vegetarian diet	53.00%
6.	Breakfast	Irregular	62.00%
7.	Dominant Rasa in diet	*Lavana*	37.00%
8.	Frequency of tea/coffee	Three times per day	43.00%
9.	Appetite	Poor appetite	42.00%
10.	Sleep	Disturbed	44.00%
11.	Academic performance	Average (40-55% marks)	53.00%
12.	*Sharirika prakriti*	*Vatta-Pitta Prakriti*	39.00%
13.	*Mansika prakriti*	*Rajasika-Tamsika Prakriti*	33.00%
14.	*Satva*	*Heena satva*	58.00%

Table No. 2:

Frequency Distribution According to *Sharirika Prakriti*

Sharirika Prakriti	Group A (n=20)		Group B (n=20)		Group C (n=20)		Total (n=60)	
	No.	%	No.	%	No.	%	No.	%
Vata-Pitta	08	40	09	45	06	30	23	39
Pitta-Vata	05	25	04	20	03	15	12	20
Pitta-Kapha	02	10	02	10	01	05	05	08
Kapha-Pitta	00	00	01	05	02	10	03	05
Vata Kapha	02	10	02	10	05	25	09	15
Kapha-Vata	03	15	02	10	03	15	08	13
Total	**20**	**100**	**20**	**100**	**20**	**100**	**60**	**100**



Maximum numbers of children (39%) were of *vata-pitta prakriti*. 20% children were of *pitta-vata prakriti*. (Table no. 2)

Discussion

- **Age:** Age range of the selected children for the study was 10-16 years. The data suggest prevalence starts at the age of 8 years which may be due to over struggling to meet academic standards, time management worries and concern over grades[12]. Adolescent age group is more prone to many psychological problems as during this stage, many psychological changes take place[13].

- **Sex:** Study included the maximum numbers of female children (62%). Analyzing all the groups separately for their sex incidence showed that all groups had female predominance. The finding is consistent with all studies that higher incidence of the disorder in females[14-15].

- **Religion:** Maximum numbers of children were Hindu (52%). Highest incidence of Hindu children may be due to predominance of Hindu community in the study area.

- **Socio-economic status:** Study showed maximum children from middle lower socio-economic strata (38%). Numerous studies have reported lower cognitive performance in relation to unfavorable environments. A lower SES is associated with smaller volumes of gray matter in bilateral hippocampi, middle temporal gyri, left fusiform and

right inferior occipito-temporal gyri, and local gyrification effects in anterior frontal regions, supportive of a potential developmental lag in lower SES children[16].

- **Diet:** Majority of patients (53%) was on vegetarian diet. Vegetarian diet may affect neuronal function and synaptic plasticity, which in turn influences brain processes relevant for onset and maintenance of mental disorders[17]. Studies have reported that vegetarians show lower tissue concentrations of long-chain n-3 fatty acids[18] and vitamin B12[19] which may elevate risk for major depressive disorder

- **Breakfast:** Majority of Patients (62%) had irregular breakfast. Breakfast foods provide many important nutrients and consumption of breakfast has been shown to be associated with beneficial effects on cognitive function and academic performance[20].

- **Rasa:** Predominance of *Lavana* rasa in diet was found in maximum number of patients (37%). Excessive use of *Lavana rasa* is known to cause *Indriyani-uprunadhi* i.e. destruct the functioning of *indriya*[21].

- **Frequency of tea/coffee:** Maximum number of patients (43%) had tea/coffee three times per day. Coffee drinking exaggerates the stress response both in terms of the body's physiological response in blood pressure elevations and stress hormone levels, but it also magnifies a person's perception of stress[22].

- **Appetite:** Majority of Patients (42%) had poor appetite. Stress may affect different physiologic functions of the gastrointestinal tract including gastric secretion, gut motility, mucosal permeability and barrier function, visceral sensitivity and mucosal blood flow[23].

- **Sleep:** Maximum number of patients showed disturbed (44%) sleep pattern. Moderate sleep disturbance was observed in 28% of subjects. There is accumulating evidence that anxiety or major depression are hallmark for disturbances in circadian rhythms and sleep architecture[24].

- **Academic performance:** Majority of Patients (53%) showed average academic performance (marks between 40-55%). Anxiety can be seen as a cause and effect of poor school performance. Students can be overwhelmed which causes anxiety, and then in turn their poor performance can produce more anxiety[25]

- **Sharirika prakriti:** Study included maximum number of cases (39%) with *vata-pitta prakriti*. The findings indicate some correlation between *Vata-Pitta Prakriti* and Academic stress. As all types of *Prakriti* individual develops Academic stress due to the reason that it affects all the systems of the body and the vitiation takes place in all the *dosha* and produces the somatic. Since prakriti is the biological/ genetic constitution of an individual, it can be concluded that *vata* & pitta *prakriti* predispose the child to the development of stress rather than *Kapha Prakriti*.

- **Mansika prakriti:** Majority of patients (33%) were of *Rajasika-Tamsika Prakriti*. The findings indicate the predominance of *Rajas trait* over *Sattvika* and *Tamas* traits among these children. *Rajo dosha* is dominant in *vayu mahabhuta* which is described as *sadoshamakhyatam roshamsatvat*. i.e. it is significantly responsible for the energy, motivation, feelings and emotional states of mind. Predominance of *rajas* part thus may cause wide emotional swings, low tolerance to emotional changes and exaggerated emotional reactions such as stress.

- **Satva:** Maximum number of patient's had *Heena satva* (58%). The person of *avara satva* are not able to tolerate the any troublesome condition themselves & not even when counseled by others. Thus *Heena satva* patients are more prone to develop psychological disturbances like *Vishada*, *Murcha*, *Unmada*, *Prapatana*.

Conclusion

Study reveals that maximum numbers of patients were having *vatta-pitta prakriti* thus it can be concluded that *Vata* and *Pitta Prakriti* predisposes the child to develop academic stress as compared to *Kapha prakriti*. *Rajasika-Tamsika* trait of *manasika prakaiti* (psyche) can add to the severity of the symptoms of Academic stress. Children having *avara satva* are more prone to develop Academic stress.

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Clinical Study

A Clinical Study On The Role Of "Menosol Compound" In The Management Of Menopausal Syndrome

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Abstract :

The present study is aimed to study clinically the role of "Menosol Compound" (a proposed formulation) in the management of Menopausal Syndrome. The trial was carried out in 2 groups of 15 clinically diagnosed patients each. In group A Menosol Compound capsules and in group B Placebo capsules were given to patients for a period of 2 months.

The results were evaluated on Kupperman's Index (KI), Menopausal Syndrome Symptom Rating Scale (MSSRS) and some laboratory investigations. At the end of the study extremely significant results were obtained with Menosol Compound as compared to Placebo. The trial drug showed a total effect of 72.65% on KI and 63.52% on MSSRS as compared to 1.68% & 3.06% respectively with Placebo. Results on objectives parameters were also encouraging.

Key Words : Menopause, Menopausal Syndrome, Placebo, Rajonivritti, Kupperman's Index.

सारांश:

प्रस्तुत अध्ययन का मुख्य उद्देश्य मीनोसोल कम्पाउण्ड का मीनोपोजलसिण्ड्रोम की चिकित्सा में प्रभाव का चिकित्सकीय रूप से अध्ययन करना है। यह चिकित्सकीय अध्ययन दो ग्रुप में विभाजित किया गया। प्रत्येक ग्रुप में सम्यक रूप से निदान कर निश्चित किये गए 15–15 रोगियों को रखा गया। ग्रुप ए में मीनोसोल कम्पाउण्ड कैप्सूल तथा ग्रुप बी में प्लेसिबो कैप्सूल रोगियों को २ माह के समय के लिए दिया गया।

प्राप्त परिणामों को Kuppermen's Index (KI), MSSRS प्रयोगशालीय परीक्षणों पर परखा गया। अध्ययन के अंत में मीनोसोल कम्पाउण्ड KI तथा MSSRS पर अत्यंत उल्लेखनीय रूप से प्रभावी पाया गया जबकि प्लेसिबो ग्रुप में परिवर्तन उल्लेखनीय नहीं थे। मीनोसोल कम्पाउण्ड का कुल प्रभाव KI पर 62.65 प्रतिशत तथा MSSRS पर 63.52 प्रतिशत था। जबकि प्लेसिबो ग्रुप का क्रमशः प्रभाव 1.68 प्रतिशत तथा 3.05 प्रतिशत पाया गया। प्रयोगशालीय मापदण्डों पर भी मीनोसोल कम्पाउण्ड से उत्साहजनक परिणाम पाए गए।

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Clinical Study

A Clinical Study On The Role Of "Menosol Compound" In The Management Of Menopausal Syndrome

Dr. Mamta Rani, Prof. C. M. Jain

Introduction :

The Menopause is the stage when a woman enters from reproductive to non- reproductive life. The word Menopause is comprised of two words – "Meno" + "Pause". Meno refers to menses & pause means to stop. Hence Menopause is permanent cessation of menstruation at the end of reproductive life due to loss of ovarian follicular activity.[1] The time of Menopause is determined genetically and occurs at a median age of 51 yrs.[2] It is natural event that normally occurs between 4th & 5th decade of her life (40-50 yr), in India the average being 47 yrs.[3]

Various symptoms associated with Menopause- physical (like – hot flushes, heavy sweating, vaginal dryness, urinary troubles and joint pains) and psychological (like insomnia, feeling of anxiety, panic or depression, irritability and other cognitive difficulties) are termed as Menopausal Syndrome. Certain factors like life stress, surgical Menopause & poor health exacerbate these menopausal symptoms. Menopausal & postmenopausal women have a greater risk of osteoporosis, heart disease, Alzheimer's disease & Diabetes.

Globally more than 470 million women suffer from Menopausal Syndrome and about 25 million women pass through Menopause each year. According to IMS (Indian Menopause Society) research there are about 65 million Indian women over the age of 45.[4] Average age of Menopause is around 47 yrs but it strikes Indian women as early as 30-35 yrs. About 75 % of women face disturbing physical symptoms & 50 % experience only types of psychological manifestations during Menopause.[5] About 50%- 60 % women seek medical help for that.

In Ayurveda, this phenomenon is considered as a natural process due to aging and not associated with any serious health problems. Menopause occurs at 50 yrs due to aging i.e. vata predominance & dhatukshaya. According to Ayurvedic classics menstruation starts at the age of 12 yrs (Menarche) and due to deleterious effect of *Jara* (aging) it slowly ends at the age of 50 yrs (Menopause). This clearly indicates the age of Menopause and most important reason for it as *Jara* (aging). In the field of Ayurveda the word *"Rajonivritti"* is commonly used for the state of Menopause.

But as such neither there is any entity like "Menopausal Syndrome" in Ayurveda nor any disease which as it is resembles to it. But Ayurveda says that one has no need to worry if we have no specific name for any disease.[6] Because every disease in this world has its basis in three doshas – *Vata, Pitta, Kapha.*

Need For The Present Study

- Large population of suffering women.
- Lack of safe & cost effective ultimate treatment for Menopausal Syndrome.
- Lack of Ayurvedic literature on Menopausal Syndrome.

Aims And Objectives

- To study the effect of "Menosol Compound" in the management of Menopausal Syndrome on various parameters.
- To compare the effect of "Menosol Compound" with Placebo in Menopausal Syndrome.
- To provide an alternative, safe, cost effective remedy for the patients of Menopausal Syndrome.

Clinical Study

Materials And Methods:

Design of study - Study was a randomized, single blind, placebo controlled study.

Selection of Patients:

Total 40 clinically diagnosed patients of Menopausal Syndrome were registered for the present study. Out of them 10 patients (6 in group A & 4 in group B) dropped out at different stages of the trial and study was completed in 30 patients. The cases were taken from O.P.D/I.P.D. of P.G. Department of Prasuti-Stri roga, Aarogyashala, National Institute of Ayurveda, Jaipur. A detailed history, evaluation and follow up studies were recorded on a proforma designed especially for the present study.

Criteria of Inclusion of patients in the study:-

- Patients having clinical features of Menopausal Syndrome aged between 35-55 yrs.
- Patients having cessation of menses for a minimum period of 6 months at least.
- Patients with both physiological as well as surgical (i.e. after hysterectomy) Menopause were included in the study.
- Patients of Premature Menopause (i.e. Menopause before 40 yrs) were also included in the trial.

Criteria of Exclusion of patients

- Patients suffering from any acute or chronic systemic illness like PUO, infectious fever, Rheumatoid arthritis, Gout, any viral infections (like HIV or herpes) etc. & any other significant hepatic, renal, cardiac or metabolic disease.
- Patients suffering from any endocrinological disorders like hypothyroidism, hyperthyroidism, diabetes mellitus etc. were not included in the study.
- The patients of Primary amenorrhoea and other complicated cases were excluded.
- Women having breast cancer.
- Women having history of any psychiatric disorder.
- Patients having any pathological conditions of the reproductive system like endometrial polyps, adenomyosis, dysfunctional uterine bleeding and evidence of any malignancies were excluded from the study.
- Patients on treatment with HRT or other estrogenic drugs, Ca binding drugs, corticosteroids within 3 months prior to the study were excluded.
- Patients with untoward effects of HRT were excluded from the study.

Clinical Methods (History taking & Examination):-

a. Detailed history of the patients

b. General Examination

c. Systemic examination

d. Gynecological Examination

e. Investigations

(i) In both groups following investigations were carried out before starting of the study :-

• (Hb %), urine complete, RBS, TLC, ESR, Total Lipid Profile, Serum FSH etc. RFT, LFT, RA factor, ECG, CRP, Thyroid Profile, Vaginal Cytology and USG are done as per need.

(ii) After 2 months i.e. completion of the study following investigations were repeated to assess any change or improvement :-

• Hb gm %, Serum FSH, TLC, ESR, Total Lipid Profile (S. Cholesterol, TG, HDL, LDL).

f. Follow up and assessment: - After every 15 days.

Grouping of the Patients:-

After the proper diagnosis, history taking and examination, investigations and confirmation for inclusion of patient in trial, patients were randomly divided in 2 groups

• Group A – "Menosol compound" group.

• Group B – Placebo group.

DRUG

Administration of the drug:

30 patients registered for the study were randomly divided into following two groups –

(1) Group A (Trial group or Menosol Compound group) : 15 registered patients of the Menopausal Syndrome were administered –

- Drug : Menosol Compound Capsules (500 mg each)
- Dose : 2 capsules twice a day
- Anupana : Milk
- Duration : 2 months

(2) Placebo Capsules : 15 registered patients of the Menopausal Syndrome were administered –

- Drug : Placebo Capsules (500 mg each)
- Dose : 2 capsules twice a day
- Anupana : Milk
- Duration : 2 months

Duration of the Trial : 2 months

(A) Menosol Compound.

Formulation: The drug is a proposed formulation (kalpita yoga) with no classical reference as such.

Form of use: Keeping in view usual complaints of difficulty in taking churna and other ayurvedic preparations and need for multiple drugs in the syndrome, the drug was made in capsule form, so that patient can easily take multi drug formulation.

"Menosol Compound" is a herbo-mineral preparation containing following ingredients -

Sr. No.	Drug Name	Botanical Name	Parts used	Dried ghana in each cap of 500mg
1.	*Shatavari*	Asparagus racemosus	Rhizomes	50mg
2.	*Madhuyasti*	Glycyrrhiza glabra	Roots	50mg
3.	*Guduchi*	Tinospora cordifolia	Stem	50mg
4.	*Aamalaki*	Emblica officinalis	Dried fruits	50mg
5.	*Haritaki*	Terminalia chebula	Dried fruits	50mg
6.	*Bala*	Sida cordifolia	Seeds	50mg.
7.	*Ashoka*	Saraca asoka	Bark	50 mg
8.	*Ashwagandha*	Withania somnifera	Roots	50mg
9.	*Sudha Shataka yoga*	Commercial brand of Kalera pharmacy, containing Sudha Varga	-	100 mg

(B) Placebo Capsules

As a control drug placebo capsules were taken which resemble "Menosol compound" in appearance, dose and mode of administration. But instead of drug starch powder was used in these capsules.

Criteria Of Assessment

After completion of the trial (and also on follow up visits) the patients registered for the study were assessed on the following parameters for any improvement:

- Clinical/Subjective parameters
- Objective parameters (Hematological & biochemical parameters)

A. Clinical/Subjective Parameters

Assessment of the clinical improvement was done on the basis of changes in the severity of signs and symptoms on the basis of -

1. Kupperman's Index[7]
2. Menopausal Syndrome Symptom Rating Scale developed by Prof. C. M. Jain et al.

B. Objective (Haematological & Biochemical) Parameters

Hemoglobin % (Hb %), TLC, ESR, Total Lipid Profile (S.Cholesterol, TG, HDL, LDL) and serum FSH values were considered as laboratory parameters to assess the efficacy of the therapy.

(A) Observations And Results

Total 40 clinically diagnosed patients of Menopausal Syndrome were registered for the present study and randomly divided in 2 groups- A & B. 6 patients from group A and 4 patients from group B were dropped out from the study and study was completed in 30 patients.

Results

Effect of the drugs was assessed on Kupperman's Index (KI); Menopausal Syndrome Symptom Rating Scale (MSSRS) and some 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)

A. Improvement In Subjective Parameters

Table no. 1: Effect Of "Menosol Compound" (Group A) On Kupperman's Index

Sr. No.	Symptoms	Mean		% Relief	Diff.	SD (±)	SE (±)	w	P	Results
		BT	AT							
1.	Vasomotor irritability (Hot flush)	4.667	0.8000	3.867	82.85	1.598	0.4125	120	<0.0001	E.S.
2.	Insomnia	4.267	0.8000	3.467	81.25	1.767	0.4563	105	0.0001	E.S.
3.	Excessive sweating	4.667	0.9333	3.733	79.98	1.280	0.3305	120	<0.0001	E.S.
4.	Headache	4.133	0.8000	3.333	80.64	1.633	0.4216	105	0.0001	E.S.
5.	Depression	3.067	2.133	0.9333	30.43	1.033	0.2667	28	0.0156	SIG.
6.	Nervousness	1.733	0.2000	1.533	88.4	0.5164	0.1333	120	<0.0001	E.S.
7.	Dizziness	1.467	0.2000	1.267	86.36	0.9612	0.2482	78	0.0005	E.S.
8.	Joint pain	2.933	1.533	1.400	47.73	0.9856	0.2545	78	0.0005	E.S.
9.	Tremor	1.267	0.3333	0.9333	73.63	0.7037	0.1817	66	0.0010	E.S.
10.	Tachycardia	1.667	0.2667	1.400	83.98	0.7368	0.1902	105	0.0001	E.S.
11.	Irritability	1.7333	0.3333	1.400	80.78	0.5071	0.1309	120	<0.0001	E.S.
12.	Lack of concentration	1.800	0.8000	1.000	55.55	0.7559	0.1952	66	0.0010	E.S.

Table no.1 shows that the drug under trial i.e. "Menosol Compound" showed Extremely Significant results (p <0.0001) on vasomotor irritability (82.85 % relief); excessive sweating (79.98 % relief); nervousness (88.4 % relief) and irritability (80.78 % relief) on Kupperman's Index. Results were also extremely significant for insomnia (81.25 %); headache (80.64 %); dizziness (86.36 %); joint pain (47.73 %); tremor (73.63 %); tachycardia (83.98 %) and lack of concentration (55.55 %). But results were only significant (p 0.0156) on depression (30.43 %).

Table no.2: Effect Of "Placebo Capsules" (Group B) On Kupperman's Index

Sr. No.	Symptoms	Mean		% Relief	Diff.	SD (±)	SE (±)	w	P	Res-ults
		BT	AT							
1.	Vasomotor irritability (Hot flush)	4.400	4.800	-0.4000	-9.09	0.8281	0.2138	-6	0.2500	N.S.
2.	Insomnia	4.4533	4.667	-0.1333	-2.94	0.9155	0.2364	-2	0.7500	N.S.
3.	Excessive sweating	2.933	2.533	0.4000	13.6	1.121	0.2895	9	0.3125	N.S.
4.	Headache	4.000	3.733	0.2667	6.60	1.280	0.3305	7	0.5625	N.S.
5.	Depression	2.400	2.267	0.1333	5.55	0.5164	0.1333	1	>0.9999	N.S.
6.	Nervousness	1.600	1.533	0.06667	4.166	0.2582	0.06667	1	>0.9999	N.S.
7.	Dizziness	1.867	1.733	0.1333	7.14	0.3519	0.09085	3	0.5000	N.S.
8.	Joint pain	3.133	3.333	-0.2000	-6.38	0.4140	0.1069	-6	0.2500	N.S.
9.	Tremor	0.9333	0.8000	0.1333	14.28	0.3519	0.09085	3	0.5000	N.S.
10.	Tachycardia	1.533	1.400	0.1333	8.69	0.5164	0.1333	5	0.3750	N.S.
11.	Irritability	2.000	1.933	0.06667	3.33	0.5936	0.1533	3	0.8125	N.S.
12.	Lack of concentration	1.667	1.667	0.000	0	0.3780	0.09759	0	>0.9999	N.S.

Table no. 2 shows the effect of Placebo Capsules on Kupperman's Index. Negative results for relief % were observed on vasomotor irritability (- 9.09 %); insomnia (-2.94 %) and joint pain (- 6.38 %), the result were not statistically significant too with p values 0.2500, 0.7500 & 0.2500 respectively. Results were statistically not significant too for – excessive sweating (relief 13.6 %); headache (6.60 % relief); depression (5.55 %); nervousness (4.166 %); dizziness (7.14 %); tremor (14.28 %); tachycardia (8.69 %) and irritability (3.33 %). No relief was observed in the symptom of lack of concentration (0%) & results were statistically not significant too with p value >0.9999.

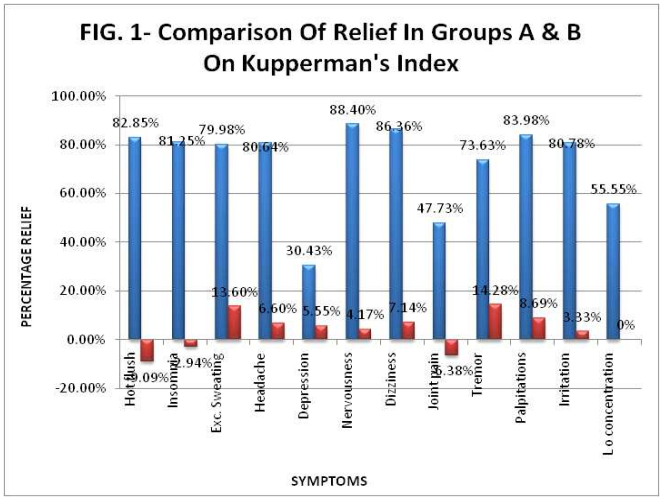

Fig no. 1 shows the comparison in relief % in various symptoms of Kupperman's Index in group A (Menosol Compound) and group B (Placebo).

Table no. 3: Effect Of "Menosol Compound" (Group A) On Menopausal Syndrome Symptom Rating Scale (Mssrs) (developed by Prof. C.M. Jain et al)

Sr. No.	Symptoms	Mean		% Relief	Diff.	SD (±)	SE (±)	w	P	Results
		BT	AT							
1.	Hot flushes	2.333	0.4000	1.933	82.85	0.7988	0.2063	120	<0.0001	E.S.
2.	Insomnia	2.133	0.4000	1.733	81.26	0.8837	0.2282	105	0.0001	E.S.
3.	Headache	2.067	0.4000	1.667	80.64	0.8165	0.2108	105	0.0001	E.S.
4.	Excessive sweating	2.333	0.4667	1.867	80.03	0.6399	0.1652	120	<0.0001	E.S.
5.	Depression	1.533	1.3300	0.4000	26.09	0.5071	0.1309	28	0.0313	SIG.
6.	Nervousness/ anxiety	1.733	0.2000	1.533	88.4	0.5164	0.1333	120	<0.0001	E.S.
7.	Dizziness	1.467	0.2000	1.267	86.36	0.9612	0.2482	78	0.0005	E.S.
8.	Joint pain	2.933	1.533	1.400	47.73	0.9856	0.2545	78	0.0005	E.S.
9.	Tremor	1.267	0.3333	0.9333	73.63	0.7037	0.1817	66	0.0010	E.S.
10.	Tachycardia (palpitations)	1.667	0.2667	1.400	83.98	0.7368	0.1902	105	0.0001	E.S.
11.	Irritability	1.7333	0.3333	1.400	80.78	0.5071	0.1309	120	<0.0001	E.S.
12.	Lack of concentration	1.800	0.8000	1.000	55.55	0.7559	0.1952	66	0.0010	E.S.
13.	Memory loss	1.533	1.067	0.4667	30.44	0.8338	0.2153	15	0.0625	N.q.s.
14.	Backache	2.667	1.000	1.667	62.50	0.6172	0.1594	120	<0.0001	E.S.
15.	Frequency of micturition	2.333	0.5333	1.800	77.15	0.8619	0.2225	120	<0.0001	E.S.
16.	Stress incontinence	1.200	0.8000	0.4000	33.33	0.5071	0.1309	21	0.0313	E.S.
17.	Dyspareunia	3.400	2.133	1.267	37.26	0.4577	0.1182	120	<0.0001	E.S.
18.	Decreased libido	3.200	2.867	0.333	10.40	0.4880	0.1260	15	0.0625	N.q.s.
19.	Indigestion	3.000	0.6000	2.400	80.00	0.6325	0.1633	120	<0.0001	E.S.
20.	Constipation	2.200	0.200	2.000	90.90	0.7559	0.1952	120	<0.0001	E.S.
21.	Prick & pin sensation	1.133	0.1333	1.000	88.26	0.7559	0.1952	78	0.0005	E.S.
22.	Wt. gain	0.7333	0.2000	0.5333	72.72	0.5164	0.1333	36	0.0078	E.S.

N.q.s. - Note quite significant

"Menosol Compound" showed extremely significant results on most of the symptoms of MSSRS. Drug showed extremely significant relief in Constipation (90.90 %); Nervousness/ anxiety (88.4 %); Prick & Pin sensation (88.26 %); Dizziness (86.36 %); Palpitations (83.98 %); Hot flushes (82.85 %); Insomnia (81.26 %); Headache (80.64 %); Excessive sweating (80.03 %); Irritability (80.78 %) and Indigestion (80 %). Very good results which were also extremely significant statistically were found in wt. gain (72.72 %); Frequency of micturition (77.15 %); Backache (62.50 %); Lack of concentration (55.55 %); Tremor (73.63 %); Joint pain (47.73 %); Dyspareunia (37.26 %) and Stress incontinence (33.33 %). Stastically the results were not quite significant on Decreased libido (10.40 %) and Memory loss (30.44 %). Only significant results were found on Depression (26.09 %).

Table no. 4: Effect Of "Placebo Capsules" (Group B) On Menopausal Syndrome Symptom Rating Scale (Mssrs) (Developed by Prof. C.M. Jain et al)

Sr. No.	Symptoms	Mean		% Relief	Diff.	SD (±)	SE (±)	w	P	Results
		BT	AT							
1.	Hot flushes	2.200	2.400	-0.2000	-9.09	0.4140	0.1069	-6	0.2500	N.S.
2.	Insomnia	2.267	2.333	-0.0666	-2.94	0.4577	0.1182	-2	0.7500	N.S.
3.	Headache	2.000	1.817	0.13333	6.60	0.6399	0.1652	7	0.5625	N.S.
4.	Excessive sweating	1.467	1.267	0.2000	13.6	0.5606	0.1447	9	0.3125	N.S.
5.	Depression	1.200	1.133	0.0666	5.55	0.2582	0.0666	1	>0.9999	N.S.
6.	Nervousness/ anxiety	1.600	1.533	0.0666	4.166	0.2582	0.0666	1	>0.9999	N.S.
7.	Dizziness	1.867	1.733	0.13333	7.14	0.3519	0.09085	3	0.5000	N.S.
8.	Joint pain	3.133	3.333	-0.2000	-6.38	0.4140	0.1069	-6	0.2500	N.S.
9.	Tremor	0.9333	0.8000	0.1333	14.28	0.3519	0.09085	3	0.5000	N.S.
10.	Tachycardia (palpitations)	1.533	1.400	0.1333	8.69	0.5164	0.1333	5	0.3750	N.S.
11.	Irritability	2.000	1.933	0.0666	3.33	0.5936	0.1533	3	0.8125	N.S.
12.	Lack of concentration	1.667	1.667	0.000	0	0.3780	0.09759	0	>0.9999	N.S.
13.	Memory loss	1.800	1.800	0.000	0	0.3780	0.09759	0	>0.9999	N.S.
14.	Backache	2.800	2.733	0.0666	2.38	0.7037	0.1817	4	0.8125	N.S.
15.	Frequency of micturition	1.667	1.667	0.000	0	0.5345	0.1380	0	>0.9999	N.S.
16.	Stress incontinence	1.067	1.067	0.000	0	0.5345	0.1380	0	>0.9999	N.S.
17.	Dyspareunia	1.800	1.800	0.000	0	0.6547	0.1690	0	>0.9999	N.S.
18.	Decreased libido	2.133	2.133	0.000	0	0.3780	0.09759	0	>0.9999	N.S.
19.	Indigestion	3.200	3.000	0.2000	6.25	0.7746	0.2000	9	0.4375	N.S.
20.	Constipation	2.200	2.133	0.0666	3.03	0.5936	0.1533	3	0.8125	N.S.
21.	Prick & pin sensation	1.200	1.000	0.2000	16.67	0.5606	0.1447	9	0.3125	N.S.
22.	Wt. gain	1.133	0.9333	0.2000	17.65	0.5606	0.1447	3	0.5000	N.S.

On all symptoms of MSSRS results were statistically not significant. Conditions of symptoms instead of improvement became worse after 2 months of placebo administration in symptoms – Hot flushes (-9.09 %); Insomnia (-2.94 %); Joint pain (-6.38 %). There was no improvement at all i.e. 0 % relief in Lack of concentration; Memory loss; Frequency of micturition; Stress incontinence; Dyspareunia and Decreased libido. est of symptoms showed minor improvements like Excessive sweating (13.6 %); Tremor (14.28 %); Prick and pin sensation (16.67 %) and wt. gain (17.65 %) but the results were not statistically significant.

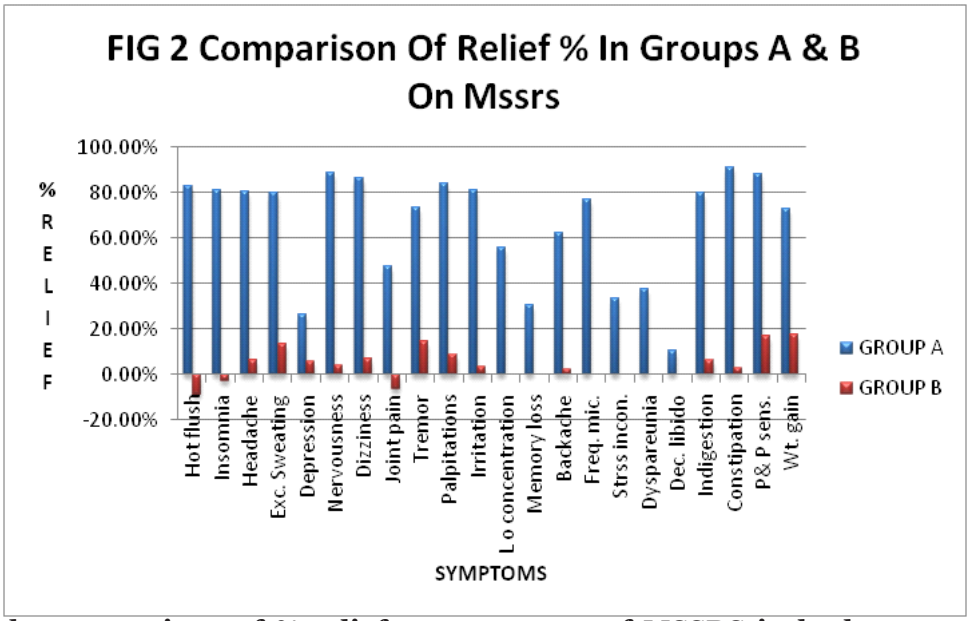

Fig 2 shows the comparison of % relief on symptoms of MSSRS in both groups A (Menosol Compound) & B (Placebo) with 15 patients each.

Table no .5 Total Effect Of "Menosol Compound" (Group A)

Criteria of Assessment	Mean		Diff.	% Relief	SD (±)	SE (±)	w	P	Res-ults
	BT	AT							
Kupperman's Index	2.783	0.7611	2.022	72.65 %	1.188	0.3429	78	0.0005	E.S.
MSSRS	2.018	0.7362	1.282	63.52 %	0.6076	0.1295	253	< 0.0001	E.S.

Table no. 5 shows that "Menosol Compound" had extremely significant total effect on both KI & MSSRS. The drug showed 72.65 % overall relief on KI and overall 63.25 % relief on MSSRS. Both the results are statistically extremely significant, proving "Menosol Compound" is a very effective drug in Menopausal Syndrome.

Table no. 6 Total Effect Of "Placebo Capsules" (Group B)

Criteria of Assessment	Mean		Diff.	% Relief	SD (±)	SE (±)	w	P	Res-ults
	BT	AT							
Kupperman's Index	2.577	2.533	0.043	1.68 %	0.2204	0.0636	14	0.5771	N.S.
MSSRS	1.858	1.801	0.057	3.06 %	0.1160	0.0247	76	0.0507	N.Q.S.

Table no. 6 shows the overall total effect of Placebo on KI & MSSRS. Placebo drug showed only 1.68 % relief on KI which was not significant statistically. On MSSRS Placebo had 3.06 % overall relief but statistically this relief was not quite significant.

Table no.8 Effect Of "Placebo Capsules" (Group B) On Haematological & Biochemical Investigations

Sr. No.	Investigation	Mean			% Relief	SD (±)	SE (±)	w	P	Results
		BT	AT	Diff.						
1.	Hemoglobin %	9.873	9.687	0.1867	1.89% ↓	0.3091	0.07980	2.339	0.0347	SIG.
2.	TLC	6313.3	6640	-326.6	5.17%	363.45	93.842	3.481	0.0037	V.S.
3.	ESR	29.533	30	-0.466	1.58%	4.627	1.195	0.3906	0.7020	N.S.
4.	Blood sugar random	86.247	86.467	-0.220	0.25%	7.326	1.891	0.1163	0.9091	N.S.
5.	Total lipid Profile									
a.	S. Cholesterol	195.96	200.1	-4.053	2.06%	7.863	2.030	1.997	0.0657	N.Q.S.
b.	S. TGL	162.28	169.76	-7.480	4.61%	5.519	1.425	5.250	0.0001	E.S.
c.	S. LDL	130.98	136.91	-5.927	4.52%	8.989	2.321	2.554	0.0230	SIG.
d.	S. HDL	60.800	59.520	1.280	2.10%	3.211	0.8290	1.544	0.1449	N.S.
10.	Serum FSH	69.34	74.44	-5.1	7.35%	6.846	1.768	2.885	0.0120	SIG

Table no.8 shows the effect of Placebo on various laboratory investigations. Hb% showed a statistically significant (p 0.0347) decrease of 1.89% in Hb% . A increase of 5.17% was observed in TLC which was statistically very significant (p 0.0037). ESR also showed a mild increase of 1.58% but it was not significant. S. Cholesterol levels were increased by 2.06% which were statistically not quite significant. S. Triglyceride & LDL levels were observed to increase by 4.61% and 4.52% respectively; the results were also statistically significant. S. HDL levels were found to decrease by 2.10% which was not significant in view of statistics (p 0.1449). Serum FSH values increased significantly by 7.35%.

Overall Clinical Effect Of Therapy

20 % patients (i.e. 3 patients) in "Menosol Compound" group had marked improvements in clinical symptoms and 80 % patients (i.e. 12 patients) had moderate improvement in their symptoms in 15 patients of group A. On the other hand all 15 patients of Placebo group had below 25 % improvement in their symptoms i.e. there was no improvement in 100 % patients.

Discussion :

Probable mode of action of "Menosol Compound" :

The trial drug "Menosol Compound" is a proposed herbo-mineral formulation with ingredients – Shatavari, Madhuyashti, Guduchi, Aamalaki, Haritaki, Bala, Ashoka, Ashwagandha, Sudha Shatak Yoga.

"Menosol Compound" is having mainly madhura rasa and vipaka, shita virya, guru snigdha guna and vata-pitta shamaka ingredients. The contents of the drug are also having Rasayana, Vayasthapana, Balya, Medhya, Jivaniya and Agnidipana properties.

- In the proposed formulation "Menosol Compound" on one side there are drugs like *Haritaki,*[8] *Guduchi*[9] and *Aswagandha* which due to their *usna virya, laghu guna* and *prabhava* posses *dipana, pachana* and *vatanulomana* properties and hence help in regulation of agni and combating *agnivaishamaya*. Here, the noteable point is that inspite of *agnidipana Guduchi* and *Haritaki* are *tridoshahara* and *Aswagandha* is *Vatashamaka*.[10]
- On the other side the same "Menosol Compound" due to its ingredient's properties like *madhura rasa* and *vipaka; snigdha* and *guru guna* and

shita virya act as *Rasayana, Balya, Vayasthapana, Medhya* and *Vata-pitta shamaka*,[11] due to which process of *dhatu* formation gets rejuvenated and ultimately *Jara*/ aging is slowed own.

- In ingredients of "Menosol Compound" *Shatavari, Madhuyasti* and *Bala* are *vata-pitta shamaka*. *Guduchi, Aamalaki* and *Haritaki* are *tridoshahara* with *Aamalaki* specially *pitta shamaka* and *Haritaki* specially *Vata-shamaka*. *Asoka* is *pittahara* and *Aswagandha* is *vatahara*. *Guru snigdha pichilla guna* of these drugs act against *laghu* and *ruksha guna* of *vatadosha* and pacify it. Hence the trial drug becomes an overall good *vata-pitta shamaka*.
- *Aswagandha* shows *Nadibalya, Mastishaka-shamaka, Hridya* properties and anti-stress and antioxidant activities. *Madhuyasti* is a well known *medhya*[12] and *nadibalya* drug and has memory enhancing, neuroprotective and anti-depresant activities. *Shatavari* also possesses *nadibalya, medhya, smirikara* and *balya* properties and anti-stress & endurance promoting activity. *Aamalaki, Haritaki* and *Bala* also have *medhya, nadi-indriya-mastishka balya* properties and adaptogenic activity. All these drugs act on *Manovahasrotas* and pacify vitiated *manas doshas* and hence helpful in relieving psychological symptoms associated with Menopause.
- *Ashoka* is very good dahaprashamana,[13] *vedanasthapana*[14] and *hridya* drug and has stimulant activity on ovarian and endometrial tissues. It also has stambhana properties.[15] The relief in various Gynecological symptoms like discharge p/v may be due to its specific and potent action on genitor-urinary system.
- *Sudha Shataka Yoga* along with providing Ca supplementation contains *tridoshahara* ingredients like *pravalabhsma, samkha bhasma*. *Pravala* is also *balya, pachana, vrsya* and useful in night sweats. *Godanti* is also *pittajwaranashaka*, *balya* and *dipana*.

Due to all these properties together "Menosol Compound" is able to relieve symptoms of dhatukshaya, vitiated vata-pitta, agnivaishamya and manovahasrotas (psychological).

Conclusion:

- "Menosol Compound" showed a total effect of 72.65% on Kupperman's Index (KI) and 63.52% on Menopausal Syndrome Symptom Rating Scale (MSSRS) as compared to placebo which had 1.68% & 3.06% relief on KI & MSSRS respectively.
- Menosol Compound showed moderate improvement in 80% patients and marked improvement in 20% patients as compared to no improvement in 100% patients with placebo.
- "Menosol Compound" showed extremely significant results on fall in TLC (7.24%) & S.Cholesterol (12.71%).
- "Menosol Compound" showed a very significant decrease of 1.39% in weight of patients and a fall of 7.09% & 13.15% in systolic and diastolic B.P. respectively as compared to not significant results of placebo.
- Results prove that "Menosol Compound" proved to be an effective & dependable remedy in the management of Menopausal Syndrome.
- All the patients tolerated the trial drug "Menosol Compound" very well with no complaints of any side effects/ toxic effects.
- "Menosol Compound" a proposed herbo-mineral formulation for management of Menopausal Syndrome proved to be an effective, safe, promising and cost effective remedy.

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6. विकारनामाकुशलो न जिह्वीयात् कदाचन् ।न हि सर्वविकाराणां नामतोऽस्ति ध्रुवा स्थितिः ॥
स एव कुपितो दोषः समुत्थान विशेषतः। स्थानान्तरगतश्चैव जनयत्यामान् बहून् ॥
तस्माद्विकारप्र.तिरधिष्ठानान्तराणि च ।समुत्थानविशेषांश्च बुद्ध्वा कर्म समाचरेत् ॥ (C.S.Su. 18/44-46)
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Clinical Study

Ayurvedic Management of *Griva Asthi Sandhi-Gata Vata* (Cervical Spondylosis)

*Dr. Shalini, **Dr. Yogesh Pandey, ***Prof. Ajay Kumar Sharma

Abstract:

Griva asthisandhigata vata simulates cervical spondylosis, which is a degenerative condition of cervical spine. Keeping in view the increasing incidence of this problem in modern society a study was conducted with following **Aim & Objective:** To assess and compare the efficacy of Shallaki Niryas and Griva Vasti in the management of Griva Asthi Sandhi Gata Vata w.s.r. to Cervical Spondylosis. Materials and Methods: The study was conducted on 30 clinically, pathologically and radiologically diagnosed patients of Cervical Spondylosis. Patients were randomly selected and divided into 3 groups: Group A was treated with Cap.Shallaki -2 Cap BD with lukewarm water after meal (Each Cap had 500mg Shallaki Niryas). Group -B was treated with Griva Vasti with Dashmool Tail for 45 min duration 14 days. Group-C had combined treatment. Effect of treatment was assessed on the basis of Neck Disability Index before and after treatment. Statistical Analysis was done with help of Instat Graph Pad 3 using Wilcoxon matched-pairs signed ranks test & Kruskal-Wallis Test. Result: Statistically singnificant was observed in all three groups.The percentage of improvement was highest in group C, than in group B and lowest in group A. **Conclusion:** Result indicate that the Shallaki Niryas and Griva Vasti are effective in management of cervical spondylosis.

Key words: *Shallaki Niryas, Griva Vasti*, Neck Disability Index, Cervical Spondylosis.

सारांश-

ग्रीवा अस्थिसंधिगत वात (CS) ग्रीवा रीढ की एक अपक्षयी हालत है। आधुनिक समाज में इस समस्या की बढती घटनाओं को ध्यान में रखते हुए एक शोध कार्य किया गया। जिसका उद्देश्य ग्रीवा अस्थिसंधिगत वात (CS) में शल्लकी निर्यास और ग्रीवा बस्ति की प्रभावकारिता का तुलनात्मक अध्ययन करना था । यह अध्ययन ग्रीवा अस्थिसंधिगत वात (CS) के चिकित्सकीय, विकृतविज्ञानी व विकरणीय निदान द्वारा चयनित 30 रोगियों पर आयोजित किया गया । मरीजों को बेतरतीब ढंग से 3 समूहों मे विभाजित किया गया। समूह ए के रोगियों को भोजन के बाद गुनगुने पानी के साथ Cap Shallaki 2 cap दो बार दिया गया। समूह बी के रोगियों को 45 मिनट के लिए दशमूल तैल के साथ 14 दिनों के लिए ग्रीवा बस्ति दी गयी तथा वर्ग सी में कैप्सूल शल्लकी तथा ग्रीवा बस्ति दोनों का प्रयोग किया गया। इस अध्ययन में पर चिकित्सा के पूर्व तथा पश्चात् का तुलनात्मक साख्यकीय विश्लेषण किया गया। तीनों वर्गों के रोगियों में महत्वपूर्ण सुधार पाया गया जो शल्लकी तथा ग्रीवा बस्ति के प्रभावी होने की ओर इङ्गित करता है। चिकित्सा का कुल प्रभाव दर्शाता है कि शल्लकी तथा ग्रीवा बस्ति, ग्रीवा अस्थि संधिगत वात (सर्वाइकल स्पॉन्डिलोसिस) की सफल चिकित्सा है।

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Clinical Study

Ayurvedic Management of *Griva Asthi Sandhi-Gata Vata* (Cervical Spondylosis)

Dr. Shalini, Dr. Yogesh Pandey, Prof. Ajay Kumar Sharma

Introduction:

Today, the lifestyle which we lead is full of stress. The rat race of our world is taking us away from our natural habits and pushing us towards a life filled with disorders which is directly related to our way of living. Cervical spondylosis is one of them. Traditionally, cervical spondylosis was considered a medical condition in which the degeneration of the inter-vertebral disks occurred due to old-age. However, this condition is commonly caused due to regularly ignoring the ergonomics of our bodies, e.g., working for long hours with computers, wrong postures while performing day-to-day life functions, sports/repetitive injuries such as long hours of playing video games, texting etc.

In cervical spondylosis the degenerative changes in the intervertebral discs lead to secondary change in the adjacent vertebrae. These changes in the cervical spine may affect one or more nerve roots, the cervical cord at one or more levels or may cause simultaneous damage to the nerve roots and cord.

The symptom and sign of cervical spondylosis fall into two main groups, those due to root compression—cervical radiculopathy, and those due to cord compression –cervical myelopathy. In addition there may be other related symptoms which include headache, pain in neck and symptom of vertebra-basilar insufficiency. All these may occur singly or in any combination.

Any degenerative type of pathological conditions in the body can be considered under the broad umbrella of *'Vata Vyadhi'*. *Sandhigata Vata* is mentioned under *Vata Vyadhi*. *Acharya Charaka* has mentioned that *Nidana Sevana* aggravates *Vata dosha* and this *Vata* gets vitiated in *Griva asthi* and *Sandhi* it leads to *Griva Asthi Sandhi Gata Vata*. *Acharya Charaka* has described *Sandhigata vata* as a *Sandhigata Anila* in *Vata Vyadhi Chikitsa*. The symptomatology of *Sandhi Gata Vata*[1] as described in Ayurvedic classics is as follows-

1. *Shoola* (pain in cervical region)
2. *Prasaran Achunchan Svedana* (pain full flexion and extension)
3. *Shotha* (swelling in cervical region)
4. *Vatapurnadriti sparsha* (filling of air in joints)
5. *Hanti Sandhigatah* (loss of function)
6. *Aatopa*

In modern medical sciences the condition is managed by use of analgesics, corticosteroids, surgical decompression, traction which provides temporary relief and has a lot of side effects besides economic and physical burden. So it is an urgent need of time for a permanent, cost effective and safe treatment devoid of side effects.

Acharya Charak emphasises, use of *Snehana, Swedana, Upanaha*, etc for management of *Vata Vyadhi*. In addition the *Swedana* is effective remedy for hyperaesthesia, pain, swelling, stiffness and restriction to movement.

In present study *Griva Vasti* was employed as modality of external *Snehana* and *Swedana*.

Aims and Objectives -

To compare the efficacy of *Shallaki Niryas* and *Griva vasti* in the management of *Griva Asthi Sandhi Gata Vata* w.s.r. to Cervical Spondylosis.

Materials and Methods –

The study was conducted on 30 clinically, pathologically and radiologically diagnosed patients of *Griva Asthi Sandhi Gata Vata* (Cervical Spondylosis). The selection of patients was made from O.P.D./I.P.D. wing of P.G. Deptt. Of Kaya Chikitsa, N.I.A., Jaipur on following criteria.

[a] Study Design- Single centre, Open label, Randomized, Interventional type

[b] Inclusion Criteria -

1. Patients of either sex with presenting symptoms of Griva Asthi Sandhi Gata Vata (Cervical Spondylosis).
2. Patients above 18 years and less than 70 years.

[c] Exclusion Criteria -

1. Age more than 70 years.
2. Pregnancy and lactating mothers.
3. Contraindication and allergy to Shallaki or previously treated with Shallaki and Griva vasti.
4. Recent cervical, spinal, or shoulder surgery or implanted instrumentation or previous surgery for cervical spondylotic myelopathy.
5. Stenosis of spinal canal.
6. Patients suffering from any infectious disease (like tuberculosis), metabolic disease (like diabetes mellitus and hypothyroidism), and chronic disease (like rheumatoid arthritis, SLE, ankylosing spondylitis).

Administration of Drugs-

The patients reporting with symptoms of cervical spondylosis were screened on the basis of above inclusion and exclusion criteria. The suitable patients who consented for participating in trial were randomly divided in three groups of 10 patients in each.

Group A – Cap.*Shallaki Niryas* -2 Cap. (500mg each) two times in a day with lukewarm water after meal for a period of 1 month.

Group B - *Griva Vasti* with *Dashmool Taila*[2], 30-45 min daily for 14 days.

Group C – Cap. *Shallaki Niryas* for 1 month and *Griva Vasti* for 14 days simultaneously.

Criteria of Assessment:

Neck Disability Index:

It is a questionnaire used to find out the level of disability of neck before and after treatment.

Statistical Methods Used:

Obtained observations were analyzed statistically with the help of Instat Graphpad 3.

1. Wilcoxon matched-pairs signed ranks test was used to assess the effectiveness of treatment in each group.
2. Kruskal-Wallis Test (Nonparametric ANOVA) was used for intergroup comparison.

Observations:

Table no.1: Demographic and background characteristics

Characteristics	Observation	Percentage of Patients
Sex	Female	62.85
Age (years)	31-60	74.27
Marital status	Married	80
Religion	Hindu	65.72
Nature of job	Lifting wt on head	28.58
Occupation	Labour	31.43
Desha	Jangal	80
Habitat	Urban	42.85
Socio-economic status	Above Poverty Line	71.43
Education	Primary	40
Dietary habit	Mixed	60
Addiction	Tea /coffee	34.30

[Table No.3] Comparative Study of effects in Three Groups

For intergroup comparison Kruskal-Wallis Test (Nonparametric ANOVA) was used.

Sr. no.	Symptoms	K-W Statistic	P value	Significance
1.	Neck Disability Index	3.844	0.1463	NS

NS-Non Significant

Discussions:

The statistical data of present research work have shown that the highest incidence of *Grivasthi Sandhi Gata Vata* (Cervical Spondylosis) was seen in between 41-50 years of age, followed by 31-40 years, followed by the 51- 60 years. This can be supported by the fact that middle aged subjects (31-60 years of age) are more exposed to strong biochemical force and heavy work in comparison to others, which may also create this condition. Also the degenerative process starts after the age of 30 years which results into different types of degenerative changes in the vertebrae of cervical region causing cervical spondylosis. This age (>60 years) is *Vata Prakopaka Kala* and according to modern science, there is progressive decrease in degree of hydration of the inter-vertebral disc with age that leads to the cycle of degeneration resulting in disc problems and causing *Grivasthi Sandhi Gata Vata* (Cervical Spondylosis). Hence, prevalence of Cervical Spondylosis is high in middle age group of people which is supported by the findings of the present study. Highest incidence was observed in females because the degenerative process of bone is highly high in menopausal women. The high prevalence of *Grivasthi Sandhi Gata Vata* (Cervical Spondylosis) in labours and households seems to be due to heavy physical work, lifting weight on head & shoulder, carrying heavy shopping baskets, frequent involvement in wrong postures, painting a ceiling involves not only heavy work above shoulder region but also hyperextension of neck and these factors may be a part in the precipitation of symptoms.

Probabale Mode of Action of *Shallaki Niryas* (*Kunduru*[3]) : Due to its *Tikta Rasa, Tikshana Guna, Katu Vipaka* and *Ushna Virya, Kunduru* pacifies vitiated *Kapha* and *Aama Dosha. Madhura Rasa* and *Usna Virya* pacifies *Vata Dosha* resulting in reduction of *Shoth, Shula* and other related symptom. The pacified *Vata Dosha* in the *Sandhi* helps to replenishes *Shleshmaka Kapha* and thereby improves the symptom of *Sandhivata*. *Kunduru* also increases *Dhatvagni* by its *Tikta Rasa* leading to proper nutrition of *Dhatus* whereas improvement of the symptom of *Vata Kshaya* is due to *Rasayan* (immunomodular) and *Brihamniya Prabhava* of *Kunduru*. The symptom of *Asthivaha* and *Majjavaha Srotas* improved due to *Madhura*, *Tikta Rasa* and *Katu Vipaka*, as they nullify the pathogenic process of *Sandhivata*.

Shallaki Niryas possesess analgesic[4] and antiarthritic properties, which are responsible for its analgesic and anti-inflammatory activities. It also acts as COX-2 inhibitor and reduces pain and inflammation without affecting the gastric mucosa. The modern experimental studies have proved that it has

1. Anti inflammatory property[5].
2. Anti arthritic and analgesic activities[6].
3. Property to prevent the destruction of articular cartilage[7].
4. Safe and well tolerated on oral administration[8].
5. Vascular protective effect[9]: It improves blood supply to joint and restores integrity of vessels obliterated by spasm of internal damage.

Probable Modes of Action of *Griva Vasti* with *Dashmoola Taila*:

Griva Vasti is a procedure in which both the properties of *Snehana* & *Swedana* are incorporated. *Griva Vasti* comes under direct contact with painful region. In this disease, *Samprapti* is at *Griva*-region and is mostly associated with structural changes of cervical vertebra. There is derangement in cervical joints & vertebrae, degeneration of intervertebral disc and lubrication function of *Shleshmaka Kapha* is affected, which results in compression, irritation or inflammation of *Nadi* i.e. Nerve, resulting in pain & muscle spasm. Therefore, local *Snehana* and

Swedana is highly effective and gives quick results because they act at the site of *Samprapti. Acharya Charak* has pointed that when even dry wood can be made to become soft and flexible with Snehana and Swedana then why not the living organs.

Oil used in *Griva Vasti* reaches upto the different *Dhatu* if it is applied for the sufficient time. Hence it is clear that the drug used in the *Griva Vasti* gets absorbed by the skin. When *Snehana* drug reaches to the particular *Dhatu* it subsides or cures the disease of that particular *Dhatu. Sandhivata* is a *Shoolapradhana Vatavyadhi* and *Shulavyuparama* (destruction of pain) is the sign of proper *Swedana.* In *Griva Vasti* the warm oil is retained for a long time (Approx. 45 minutes) at the site of pathology the resultant effect of the procedure produced according to the physiology is stated below :–

Skin is highly sensitive to the *Snehan* therapy. *Vayu* dominates in the *Sparshendriya* i.e. tactile sensory organ, and is located in skin. Through skin only Veeryas of *Abhyanga, Parisheka, Avagaha, Alepa,* enter into the body after undergoing *Paka* with *Bhrajaka Pitta* in *Twacha* and subsides or cures the disease.

The drug used in *Griva Vasti* have *Snigdha, Guru, Mridu, Drava, Picchila, Sara, Sukshma* and *Manda Guna* which are opposite to the properties of *Vata Dosha*. These drugs are *Vatahara, Kaphara*, *Pustikar* by properties. So, this regimen provides nutrition for the body, strengthens the muscle and reduces the stiffness.

Among the 10 *Dravyas* of *Dashmoola* 5 dravyas (50%) have *Vata-Kapha Shamak* property, 4 *Dravyas* (40%) have *Tridoshaghna* property and 1 *Dravya* (10%) has *Vata-Pitta Shamaka* property. It means, in *Dashmoola* all *dravyas*(100%) have *Vata shamak* property and 9 *Dravyas*(90%) have *Vata-Kapha Shamaka* property. Therefore, it will be a potent *Vata shamak*, *Vata-Kapha Shamaka* and *Tridoshaghna* compound. In Ayurvedic Texts, it is also mentioned, *"Dashmoolam Tridoshaghnam Kaphmarut Nashnam"*.

Since, the *Sandhigata vata* may be of two types viz. *Kshayajanya* and *Avaran janya* and *Dashmoola* has *Kapha-Vatahara* action, therefore it should be effective in all forms of *Griva sandhigata vata*.

In the view of knowledge of modern science, the various chemicals present in *Ghatak Dravyas* of *Dashmoola* possess anti-inflammatory and Analgesic action. Therefore, by the action of these constituents it breaks the basic pathology and helps in relieving its clinical features.

Tila Taila possess *Madhura, Kashaya, Tikta Rasa, Guru, Snigdh Guna, Ushna Veerya* and *Madhura Vipaka. Doshaghnta* is *Vata Shamaka*. Therefore, it should be effective in *Sandhi vata.*

Thermal effect of warm oil - These are effects arising from an increase in blood temperature stimulation of thermo detector in the skin and local temperature increase. Heat has been defined as increase in the velocity of particles. In general this has catalytic effect on all chemical process. Thus application of heat results in an increase in the local metabolism of the cell and increased transport through the cell membranes. For ehighly increase of one degree Celsius within the physiological limits, the metabolic activity increases by about 10%. The local metabolic increase leads to an increase in the oxygen partial pressure (PO2), the carbon di-oxide partial pressure (PCO2) and acidity pH. These three factor PO2, PCO2 & pH determine the local perfusion by their effect on pre-capillary Sphincter and Meta arterioles. The pre-capillary sphincter and the meta-arterioles in the tissue control the local homeostasis by alternate contractions and relaxations. This alternate activity controls the perfusion of the capillary bed. At the same time, the contraction forces the blood in the capillaries forward. This process of auto-regulation is referred to as "vasomotion" which is principally determined by the oxygen concentration[10].

An increase in the temperature of connective tissue, in particular the collagenous tissue such as skin, muscle, tendon, ligament or articular capsule will be accompanied by an increase in the elasticity. Heat can improve the elasticity of fibrous tissue by a factor of 2 to 10. At the same time, the viscosity of matrix decreases. Consequently connective tissue such as tendon tissue and ligament will also become more elastic.

Conclusions:

Cap.*Shallaki* and *Griva Vasti* is effective treatment for *Griva Asthi Sandhi Gata Vata*

(Cervical Spondylosis). Combined group (Cap. *Shallaki* and *Griva Vasti*) is more effective than single group. No side/toxic effects were reported by any of the patients during the course of therapy. All the patients tolerated medicines and procedures highly well. An idea of efficacy of Cap. *Shallaki, Griva Vasti*, on *Grivasthi Sandhi Gata Vata* (Cervical Spondylosis), may encourage the forthcoming researcher, for thinking about other treatment regimen for same disease. The prevalence of disease is increasing day by day; but this study was conducted with a relatively small sample size. In future studies further testing may be conducted with larger sample sizes in order to validate findings and confirm hypothesis. Clinical trial is done short duration so to evaluate the exact mode of action of drug and significance of the trial a extended study on longer is highly much needed.

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Clinical Study

A Clinical Evaluation of *Guggulu* (*Commiphora mukul*) coated *Kshara Sutra* and *Shala* (*Shorea robusta*) coated *kshara sutra* in the management of *Bhagandara* w.s.r. to Fistula-in-ano

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Abstract

Standard *Apamarga ksharasutra* is used successfully in the management of *Bhagandara* by researcher. But *Snuhi* latex having a very little amount of it is collected after the incision of stem, requires fresh latex in ever coating, rare to get in all part of india. It coagulates if not used early and become useless. Collection is more difficult in summer, so preparation is possible only in limited seasons. Sometimes it is painful, irritant and allergic to the patients. Sometime it may be harmful for skin and eyes during preparation, if not use carefully.

In *Guggulu* resin coated *Ksharasutra, Guggulu* found in some special zone and in a very little quantity. Use of *Guggulu* having a large share in medicinal preparations. So in future the lack of *Guggulu* will be definately face.

Considering the above mentioned problems, we have decided to plan for modified *Shala* resin (Shorea robusta) coated *Ksharasutra* having better action, acceptability and more availability. An annual yield of 4-5 kg. resin per tree is obtained, For this above cited study three type of *Ksharasutras* were prepared. So at the end of this study final conclusion can be drawn that *Shala* resin coated *ksharasutra* is more competent and effective than *Guggulu* coated *Ksharasutra* & *Snuhi* coated *Ksharasutra* in the management of *Bhagandara* (Fistula-in-ano).

Key words - Fistula, *madhukadi*, verbal analogue scale, unit cutting time

सारांश-

भगन्दर चिकित्सा में मानकीय अपामार्ग क्षारसूत्र का प्रयोग पूर्व में अन्य शोधार्थी के द्वारा सफलता पूर्वक किया गया है, किन्तु यह देखा गया है कि एकत्रण के दौरान स्नुही क्षीर अल्पमात्रा में निकलता है, एवं हमेशा क्षारसूत्र कोंटिग के लिये ताजा क्षीर की आवश्यकता है एवं स्नुही क्षीर सम्पूर्ण भारत में नही पाया जाता है। यदि स्नुही क्षीर को तुरन्त प्रयोग में न लिया जाये तो यह जम जाता है। स्नुही क्षीर के एकत्रण की प्रक्रिया कठिन है। कभी-कभी स्नुही क्षीर के प्रयोग से रोगी को दर्द उत्तेजना एवं एलर्जी का सामना करना पडता है। स्नुही क्षीर क्षारसूत्र निर्माण के दौरान त्वचा के लिये नुकसानदायक होता हैं। यदि सावधानी पूर्वक प्रयोग न किया जायें।

गुग्गुलु, रेजीन, क्षारसूत्र बनाना आसान है। किन्तु यह भारत के कुछ विशेष क्षेत्रों में ही अल्प मात्रा में पाया जाता है एवं गुग्गुलु के द्वारा अनेक आयुर्वेदिक औषधियों का निर्माण किया जाता है अतः भविष्य में निश्चित रूप से गुग्गुलु की कमी का सामना करना पड़ेगा।

इन सभी समस्याओं को देखते हुए हमने शाल रेजीन क्षारसूत्र का प्रयोग किया है। क्योंकि आचार्यों ने शाल की उत्तम क्रिया, उत्पादकता एवं सहज प्राप्ति का वर्णन किया है। शाल का एक वृक्ष एक साल में चार से पाँच किलो रेजीन उत्पन्न करता है। अतः इन सभी उपरोक्तों को ध्यान में रखते हुए हमने तीनो प्रकार के क्षारसूत्रों का तुलनात्मक अध्ययन किया है। अध्ययन एवं प्रयोग के उपरांत यह पाया गया है कि भगन्दर रोग में शाल रेजीन क्षारसूत्र, अपामार्ग क्षारसूत्र एवं गुग्गुलु क्षारसूत्र से अधिक प्रभावशाली है।

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Clinical Study

A Clinical Evaluation of *Guggulu* (*Commiphora mukul*) coated *Kshara Sutra* and *Shala* (*Shorea robusta*) coated *kshara sutra* in the management of *Bhagandara* w.s.r. to Fistula-in-ano

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Introduction

From the onset of civilization the humanity suffered from various diseases and among the many uncomfortable conditions, Bhagandara is the one of the most important one. The disease is widely prevalent and numerous options are being practiced for its management. However none of them could provide solace to the suffering mankind.

वातव्याधिः प्रमेहश्च कुष्ठमर्षो भगन्दरम् ।
अष्मरी मूढ़गर्भष्च तथैवोदरमश्टमम् ॥
अश्टावेते प्रकष्त्यैव दुष्चिकित्स्याःमहागदाः ।
(सु.सू. 33/4–5)

The Bhagandara is one among the eight troubles described in ayurveda. Bhagandara is a disease that exists since the early days of evaluation of the mankind. In India the disease is known from very early days.[1]

Fistula-in-ano is a disease of ano rectum and form quite a large share of all the disease of this part of the body. It is characterized by single or multiple sinuses with purulent discharge in the perianal area[2]. It becomes a notorious disease due to its anatomical situation and it is a disease of guda which is one of the most marms, in which recurrence of Fistula-in-ano occurs even with skilled surgeons[3]. In Ayurveda classics it is known as *Bhagandara* and is included in eight *mahagada* by *Acharya sushruta*.

ते तु भग गुद वस्ति प्रदेशदारणाष्च भगन्दरा इत्युच्यन्ते।
अपक्व पिड़काः पक्वास्तु भगन्दराः ॥
(सु.नि. 4/4)

The literary meaning of *Bhagandara* is '*Daran*' like *Bhag* (*yoni*), *Guda* and *Vasti* area. It clearly indicates that bursting of a *pakva pidika* results into *daran* of that area and communicates with *Bhag* (*yoni*), *guda* and *vasti* with surrounding skin surface and is term as *Bhagandara*.[4]

Need and Significance of Present Research Work:

It is quite common for a patient to seek treatment of this disease through surgical intervention because this is only alternative known to the modern medical practitioners and the public in general.

In modern surgery the only form of treatment of an anal fistula that affords any reliable prospect of cure is operation. The surgeries of anal fistula have an unenviable reputation for subsequent recurrences faecal soiling, imperfect control of flatus, chronic wound healing, more hospitalization etc. These are few operations in surgery where the quality of the result is so much influenced by the technical skill of the surgeon[5].

John Goligher has reported that recurrence rate in the fistulectomy is about 8%. Besides that 12% of the patients complained of inadequate control of faeces, 16% of imperfect control of flatus and 24% of frequent soiling of their underclothes.[6]

It has brought revolution in the Indian system of surgery. *Kshara Sutra* ligation therapy in the management of Fistula-in-ano has proved boon for the humanity. It can effectively Substitutes the modern surgical procedure, because of following facts -

- Economical.
- Early ambulation of patient even after the procedure as it is a kind of minimal invasive procedure.
- Less discomfort.
- No damage of sphincter and soft tissues in anal region.
- No need of long duration hospitalization.[7]

Other complications of the operation that mentioned priority has never been reported in K.S. therapy.

Man always strives for the best that is why the advancements and research has become a continuous process. *Kshara-sutra* will definitely play a key role in the development of *Shalya Tantra* branch. *Kshara Sutra* is a unique and an established procedure for the management of *Bhagandara* in ayurveda.

In *kshara-sutra* therapy the cutting and healing of fistulous track takes simultaneously. In some cases it has been observed that the healing status of track was not satisfactory with snuhi ksheera coated kshara sutra. In these situations we decided a comparative study of different *kshara* sutra.

Aims And Objects:

1. To study fundamental principal describe by the Sushrut Samhita in the management of Bhagandara.
2. Comparative study of *Guggulu* coated *kshara-sutra* and *Shala* coated *kshara-sutra* in the management of Fistula-in-ano.
3. Taming the symptoms like pain, burning sensation, and discharge. Itching and Tenderness in the management of Fistula-in-ano.
4. To compare the healing status in all groups.
5. To provide the safe, painless & economical & without recurrence management of Fistula-in-ano.

Materials And Methods

(A) Content of standard *Ksharasutra*.

1. *Snuhi Ksheera* (*Euphorbia nerifolia*)
2. *Apamarg Kshara*
3. *Haridra Churna*[8]

(B) Content of *Guggulu* coated *Ksharasutra*.

1. *Guggulu* resin (*Commiphora mukul*)
2. *Apamarg Kshara*
3. *Haridra Churna*

(C) Content of *Shala* coated *Ksharasutra*.

1. *Shala* resin (*Shorea robusta*)
2. *Apamarg Kshara*
3. *Haridra Churna*

(D) *Madhukadi taila*-The drug is used for present study describe in *Astanga-Hridaya* for *Bhagandara*.[9]

Statistical Analysis:

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

P	0.05	Insignificant
P	0.020	moderately significant
P	0.010	Significant
P	0.001	highly significant

Criteria of Assessment:

(a) **Subjective** - Pain
- Burning sensation
- Itching

(b) **Objective** - pain (Verbal analogue scale)
- swelling
- Discharge
- U.C.T. (unit cutting time)

Grouping of Patients:

For clinical trial 90 patients will be grouped in three groups –

Group A: Standard *Ksharasutra* + *Madhukadi Taila*

Group B: Guggulu coated *Ksharasutra* + *Madhukadi taila.*

Group C: Shala Coated *Ksharasutra*+ *Madhukadi taila*

Inclusion Criteria:

All the patients were between age group of 16-70 years.

Exclusion Criteria:

- Patients above the age of 70 years
- AIDS patients
- Childrens
- Fisure -in- ano
- Carcinoma of rectum
- Crohn's disease
- Ulcerative colitis
- Tuberculosis
- Diabetes mallitus
- Osteomyelitis of coccyx
- High anal type of Fistula

Administration of Drug:

Kshara-sutra was changed weekly till recovery.

Drug (*Madhukadi taila*) administered after *Kshara-sutra* ligation in Fistula-in-ano in all three groups.

Doses:

To the depth of Fistula-in-ano (standard dose 2ml) in morning and evening every day.

Duration:

Symptoms were assessed till recovery of the disease.

Observation:

In the present study the incidence of *Bhagandara* was greater in males (90%) compared to females (10%). Long hours as sedentary jobs, Excessive physical exerise like riding of vehicles, Bed dietary habits increased the incidence in males. Beside few ladies turned up in the O.P.D., may be due to lack of knowledge, education and their shy nature.

Vataj and *kaphaj* individual (72%) are effected to a greater extent by *Bhagandara*. (Kumar P. and Sahu M. 1988). In the present study almost same result was noticed. The disease was more prevalent in *Kaphaj* (54.44%) and *Vataj* (25.55%) individuals. This is probably due to the fact that Kaphaj prakriti persons are more prone to adopt sedentary life style, which is one of the main etiological factors.

In present study it was observed that the incidence of the disease was highest in age group of 30-40. Overall 80% patients were of middle age. The disease was more prevalent in this group, because this is the most active phase of any human and hence increased travelling, improper attention to bowel movements, overstraining, local hygiene, long hours of sitting in same postures etc. Increased the incidence of the disease in the patient of this age group.

Majority of patients (50%) were from business and service class (40%). Businessmen and those doing office jobs need to constantly sit in the same posture for long hours. Constant pressure over buttock, lack of exercise leads to constipation and culminates in the causation of Fistula-in-ano in these people.

The above said reasons also justify the predominance sedentary type of life style (64.44%).

Out of 90 patients selected for this study (70%) were vegetarian so it is indicated that the location of hospital and city where the maximum of people are choiced to vegetarian.

The 73.33% patients were married in this clinical study. Common in these individuals is due to the facts that they bear maximum mental and physical stress which leads to improper attention towards the person himself. Altered sleeping routine, faulty dietary habit, less attention towards bowel movements, local unhygine were main contributory factor to these findings. Besides this *Acharyas* had mentioned the role of excessive intercourse in the etiology of *Bhagandara* which may also be the reason of this data.

The majority of patients (81.11%) were having in this research work less than one year chronicity followed by group above 3 years chronicity of *Bhagandara* 1.11%. Patients were found cronocity of 1-3 year (17.77%). Lack of proper knowledge

about the disease initial treatment with antibiotics or other therapy. Considering it just an abscess delays the treatment and hence by the time the patient come for treatment. It is more than within a year and thus we found such an high incidence in the group of under years.

In this clinical study maximum numbers of patients were suffering from *Parishravi* type of *Bhagandara* (54.44%).

The classification mentioned in the texts of Ayurveda is valid and scientific even today. More then 75% of the patients have a *parisravi* type of *Bhagandara* (Sharma K.R. and Deshpande P.J., 1968). This may be due to more number of posteiorly situated where the maximum number of gland also presents posteriorly and low anal Fistula-in-ano are generally of parisravi type.

'Incidence of *Bhagandara* in the study reveals the majority of the cases (72.22%) were of low anal variety. Sainio (1984) reported that 90% of the Fistula occurs due to non-specific infection of anal glands. These anal glands are situated in anal an crypt which occurs in lower portion of anal canal.

Majority of Fistulas have their external opening in the posterior half. More than half of the cases have their external opening in posterior half of anal canal again this is because of location of anal glands which are numerous in numbers in the posterior half of anal canal.

Clinical study

Table No.01: Showing Statistical presentation of Pain (N=30)

Group	M.BT.	M.AT.	%	SD±	SE±	t-value	p-value
A	1.433	0.6	58.14	1.366	0.249	3.339	<.005
B	0.733	0.133	81.82	0.639	0.116	5.137	<.001
C	1.6	0.466	70.83	1.479	0.270	4.196	<.001

Table no. 01 shows the comparative percentage relief in pain and t & p values was assessed. The percentage relief in pain in group A was 58.14% and in group B was 81.82% and in group C was 70.83%. All the patients were analyzed before and after treatment. The maximum percentile relief was noticed in group B (81.82%) with t-value 5.137 and minimum was of group A (58.14%) with t-value of 3.339. The results were highly significant in B&C groups.

Table No.02: Showing Statistical presentation of Burning Sensation (N=30)

Group	M.BT.	M.AT.	%	SD±	SE±	t-value	p-value
A	1.6	0.533	67.67	1.507	0.275	3.876	<.001
B	1.883	0.566	69.09	1.529	0.279	4.535	<.001
C	1.866	0.3	83.93	1.135	0.207	7.559	<.001

Table no. 02 shows the comparative percentage relief in burning sensation and t & p values was assessed. The percentage relief in burning sensation. In group-A was 67.67% and in group B was 69.09% and in group-C was 83.93%. All the patients were analyzed before and after treatment. The maximum percentile relief was noticed in group-C (83.93%) with t-value 7.559 and minimum was of group-A (67.67%) with t-value of 3.876. The results were highly significant in all groups

Table No.03: Showing Statistical presentation of Itching (N=30)

Group	M.BT.	M.AT.	%	SD±	SE±	t-value	p-value
A	1.333	0.533	60.00	1.297	0.236	3.37	<.005
B	1.533	0.466	69.56	1.080	0.197	5.406	<.001
C	1.6	0.3	81.25	1.149	0.209	6.195	<.001

Table no. 03 shows the comparative percentage relief in itching and t& p values was assessed. The percentage relief in itching in group-A was 60% and in group-B was 69.56% and in group-C was 81.25%. All the patients were analyzed before and after treatment. The maximum percentile relief was noticed in group-C (81.25%) with t-value 6.195 and minimum was of group-A (60%) with t-value of 3.37. The results were highly significant in groups B & C.

Table No. 04: Showing Statistical presentation of pain by vas scale (N=30)

Group	M.BT.	M.AT.	%	SD±	SE±	t-value	p-value
A	6.2	2.733	55.91	3.104	0.567	6.116	<.001
B	6.666	1.266	81.00	2.357	0.430	12.545	<.001
C	6.6	1.933	70.70	3.032	0.553	8.429	<.001

Table no. 04 shows the comparative percentage relief in pain (**vas**) and t& p values was assessed. The percentage relief in pain (vas) in group-A was 55.91% and in group-B was 81.00% and in group-C was 70.70%. All the patients were analyzed before and after treatment. The maximum percentile relief was noticed in group-B (81.00%) with t-value 12.545 and minimum was of group-A (55.91%) with t-value of 6.116. The results were highly significant in all groups.

Table No. 05: Showing Statistical presentation of Swelling (N=30)

Group	M.BT.	M.AT.	%	SD±	SE±	t-value	p-value
A	1.566	0.6	61.70	1.129	0.206	4.689	<.001
B	1.8	0.533	70.37	1.412	0.257	4.911	<.001
C	2.133	0.5	76.56	1.564	0.285	5.718	<.001

Table no. 05 shows the comparative percentage relief in Swelling and t& p values was assessed. The percentage relief in Swelling in group-A was 61.70% and in group-B was 70.37% and in group-C was 76.56%.All the patients were analyzed before and after treatment. The maximum percentile relief was noticed in group-C (76.56%) with t-value 5.718 and minimum was of group-A (61.70%) with t-value of 4.689. The results were highly significant in all groups.

Table No. 06: Showing Statistical presentation of Discharge (N=30)

Group	M.BT.	M.AT.	%	SD±	SE±	t-value	p-value
A	1.933	0.6	68.97	1.295	0.236	5.367	<.001
B	1.366	0.3	78.05	0.907	0.165	6.4	<.001
C	2.6	0.466	82.05	1.525	0.278	7.66	<.001

Table no. 06 shows the comparative percentage relief in Discharge and t& p values was assessed. The percentage relief in Discharge in group-A was 68.97% and in group-B was 78.05% and in group-C was 82.05%.All the patients were analyzed before and after treatment. The maximum percentile relief was noticed in group-C (82.05%) with t-value 7.66 and minimum was of group-A (68.97%) with t-value of 5.367. The results were highly significant in all groups.

Table No. 07: Average Unit Cutting Time of Group-A

S.No.	Length of track	Days for cutting	U.C.T. days/cm.
1.	5.6	40	7.142
2.	4.2	30	7.142
3.	9.8	67	6.836
4.	11.2	85	7.589
5.	8.2	58	7.073
6.	11.5	79	6.869
7.	7.5	52	6.933
8.	13.5	98	7.259
9.	8.4	60	7.142
10.	6.2	44	7.096
11.	5.4	37	6.851
12.	8.6	59	6.860
13.	6.6	46	6.969
14.	9.4	65	6.914
15.	7.6	53	6.973
16.	8.4	58	6.904
17.	9.4	68	7.234
18.	7.4	52	7.027
19.	6.2	44	7.096
20.	5.4	38	7.037
21.	11.2	79	7.053
22.	9.2	65	7.065
23.	8.4	59	7.023
24.	5.4	39	7.222
25.	6.6	45	6.818
26.	7.4	53	7.162

27.	8.4	60	7.142
28.	9.4	65	6.914
29.	5.4	39	7.222
30.	8.9	63	7.078
Average U.C.T.			7.063

This table shows that average UCT in group A was 7.063 days/cm.The showiest cutting rate was 7.589 days/cm. and the fastest was 6.818 days/cm.

Table No. 08: Average Unit Cutting Time of Group-B

S.No.	Length of track	Days for cutting	U.C.T. days/cm.
1.	3.8	24	6.315
2.	3.2	22	6.875
3.	4.2	30	7.142
4.	4.6	32	6.956
5.	5.9	42	7.118
6.	6.2	45	7.258
7.	4.2	30	7.142
8.	5.9	39	6.610
9.	6.8	47	6.991
10.	7.2	50	6.944
11.	8.9	58	6.516
12.	4.8	33	6.875
13.	9.2	65	7.065
14.	6.2	45	7.258
15.	11.2	80	7.142
16.	4.9	35	7.142
17.	8.2	57	6.951
18.	7.4	51	6.891
19.	5.4	38	7.037
20.	8.2	58	7.073
21.	6.4	45	7.031
22.	9.8	70	7.142
23.	8.4	60	7.142
24.	7.2	52	7.222
25.	6.5	47	7.230
26.	8.4	60	7.142
27.	5.6	42	7.5
28.	9.6	67	6.979
29.	12.2	86	7.049
30.	11.8	80	6.779
	Avarege UCT		7.018

The above table shows the average UCT of group B, which was 7.018 days/cm. The slowest cutting rate was 7.5 days/cm. and the fastest was 6.315 days/cm.

Table No. 09: Average Unit Cutting Time of Group C

S.No.	Length of track	Days for cutting	U.C.T. days/cm.
1.	7.4	50	6.756
2.	7.9	52	6.582
3.	8.4	56	6.666
4.	11.2	78	6.964
5.	6.8	45	6.617
6.	7.4	51	6.891
7.	5.6	36	6.428
8.	12.2	85	6.967
9.	9.4	64	6.808
10.	8.2	57	6.951
11.	7.6	51	6.710
12.	8.4	58	6.904
13.	7.6	53	6.973
14.	5.4	37	6.851
15.	9.6	65	6.770
16.	7.4	52	7.027
17.	8.7	60	6.896
18.	9.4	65	6.914
19.	10.7	71	6.635
20.	10.8	80	7.407
21.	16.2	112	6.913
22.	12.2	85	6.967
23.	9.4	65	6.914
24.	7.4	51	6.891
25.	5.2	36	6.923
26.	7.2	50	6.944
27.	6.2	43	6.935
28.	6.4	44	6.875
29.	5.4	36	6.666
30.	9.2	65	7.065
	Avarege UCT		**6.87**

The above table shows the average UCT of group C, which was 6.87 days/cm. The slowest cutting rate was 7.407 days/cm. and the fastest was 6.428 days/cm

Results

Final Assesment table of criteria

Groups	Group A	Group B	Group C
Pain relief (%)	58.14	81.82	70.83
t- Value	3.339	5.137	4.196
Significance	Significant	H.S.	H.S.
Burning sensation (%)	67.67	69.09	83.93
t- Value	3.876	4.535	7.559
Significance	H.S.	H.S.	H.S.
Itching (%)	60.00	69.56	81.25
t- Value	3.37	5.406	6.195
Significance	Significant	H.S.	H.S.
Pain % (vas)	55.91	81.00	70.70
t- Value	6.116	12.545	8.429
Significance	H.S.	H.S.	H.S.
Swelling (%)	61.70	70.37	76.56
t- Value	4.689	4.911	5.718
Significance	H.S.	H.S.	H.S.
Discharge (%)	68.97	78.05	82.05
t- Value	5.367	6.4	7.66
Significance	H.S.	H.S.	H.S.

U.C.T. In all three groups (N=30)

Sr. No.	Groups	U.C.T. (Days/cm.)
1.	Group A	7.063
2.	Group B	7.018
3.	Group C	6.870

Conclusion $ Result

So at the end of this study final conclusion can be drawn that *Shala* resin coated *ksharasutra* is more competent and effective than *Guggulu* coated *Ksharasutra* & *Snuhi* coated *Ksharasutra* in the management of *Bhagandara* (Fistula-in-ano).

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Survey Study

A Survey Study of *Rujakar Vata Samprapti Lakshana Sambandha*

*Dr. Rekha Srivastava, **Dr. B. K. Sevatkar, ***Dr. Deshmukh Prashant Nareshrao

Abstract –

Introduction–In the last decade has seen dramatic changes in the way we understand pain. Rather than lookingat pain as simply a symptom of trauma, infection, inflammation, or surgery, now we see it as a discrete disease unit - one that fundamentally alters the entire nervous system. In a major recent advances, neuroimaging tools have allowed us to peer inside the human brain in ways once only dreamed about – unlocking mysteries of where pain is perceived and processed, how it affects the brain, and how it can act to change our thoughts and emotions.

Materials and Methods- This present research is very much limited to the pathological aspect of *Vata* in context of the pain and present research is a survey which aimed to reveal the all corners of a *rujakarVata* & its *Nidansamprapti* with the righteous amalgamation of modern aspect of pain pathology. Survey proforma specially developed. In the survey study at most 500 cases have been taken to reveal the factors responsible for the pain

Result- Out of 500 cases maximum were suffered with *Stambha*, followed by cases of *Gaurav*,*Chatita*, *Sancocha*, *Vrikkashoola*, *Toda*, *Daha*, *Karnaashoola*, *Udveshtana*, *Sparshasahatva*, *Sphurana*, *Tadan*, *Bheda*, *Shirahshoola*, *Kartan*, *Siravyas*, *Annadravashoola*, Billiary colic, *Graha* and *Pipilikasrapti*, *Sakthiutkshepanigrahati*.

Discussion and conclusion- Survey study shows that there is a thorough relationship between *Vataprakopanidanalakshana* & *samprapti* of pain.

Key Words- *Vata, Rujakar Vata, Nidan-Lakshan-Samprapti*

सारांश–

पिछले दशक से वेदना के प्रति लोगों का नजरिया परिवर्तित हुआ है। यह आघात, शल्य क्रिया संक्रमण एवं शोध का लक्षण मात्र न रहकर एक व्याधि के रूप में देखा जा रहा है क्योंकि यह समग्र नाड़ी तंत्र का प्रभावित करता हैं। यह अनुसंधान कार्य वात के निदानात्मक पक्ष पर आधारित है। यह अनुसंधान कार्य वेदना के हर प्रकार को चिन्हत करता है तथा व्याधि एवं वेदना भेद के बीच संप्राप्ति स्थापित करता हैं।

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Survey Study

A Survey Study of *Rujakar Vata Samprapti Lakshana Sambandha*

Dr. Rekha Srivastava, Dr. B. K. Sevatkar, Dr. Deshmukh Prashant Nareshrao

Introduction –

Vata has given the most important attention among the all three *Doshas*.[1] There are many chapters given separately to explain the *Prakriti Vikriti* status of *Vata* in various *samhitas*. Mainly in *Charak Samhita sutrasthana* 12 *Vatakalakaliyaadhyay* & *Chikitsasthana* 28 *Vatavyadhi* chapters are explaining the physiology & pathology of *Vata* respectively. In this *Samhita* first time *Vata* classified into five subtypes with the specification of *sthana* & *karma*.[2] Even many other chapters like *navegandhar-niyaadhyay*, *udaavarta*, *vatashonita* & *srotoviman* are given greater importance to *Vata*. In physiological activities *annadana*, *rasmalavivek*, *samghatabheda*,[3] shtulanusrtotasambhetta, *kshepta-bahirmalanam*,[4] *dravikarana*, *uchitavikshepana*[5] are being performed by individual *Vata*. Their prakopa is due to swanidan, *dhatukshaya* & *margavarana*.[6]

For the first time, we have the tools to effectively explore the impact of pain on the brain and can use this information to create the comprehensive interdisciplinary treatment needed to prevent or reverse these changes. Our ultimate goal is to lessen or stop our patient's pain and restore and enhance their quality of life.

This present research is very much limited to the pathological aspect of *Vata* in context of the pain. Mostly the diseases & their vatic *bheda* is mentioning various types of the pain but very specifically *gulmaroga* is a magnified contribution to the pathology of pain & this chapter contributes a detailed pathogenesis &aetiology of different pain. Although this chapter is very much enough to brief knowledge about the pain but the present research is aimed to reveal the all corners of a *rujakarVata*& its *Nidansamprapti* with the righteous amalgamation of modern aspect of pain pathologythe present study was planned with the following aims and objectives.

Aims and objectives:-

To investigating the prevalence of *Vataprakopanidana*, their pathological symptoms to explain the interrelation between *Nidanlakshana* & *samprapti*.

Material and Methods

At the most 500 cases in which pain is the main presenting feature have been taken for the survey study to reveal the factors responsible for the pain. This large sample has been taken to categorize all kind of pain & draw some reasonable points. Out of these 500 patients 170 patients in which the cause of pain is not known were diagnosed with the help of USG

Observation and Results

Table 1: Showing Distribution of Types of pain in 500 Cases

S.N.	Types of pain	No. of cases	% of Patient
1	*Stambha*	143	28.6%
2	*Gaurav*	115	23%
3	*Chatita*	87	17.4%
4	*Udveshtana*	7	1.4%
5	*Sparshasahatva*	7	1.4%

6	*Pipilikasraptiev*	1	0.2%
7	*Sakthiutkshepanigrati*	1	0.2%
8	*VrikkaSula*	21	4.2%
9	*Sphurana*	7	1.4%
10	Billiary colic	2	0.4%
11	*Kartan*	4	0.8%
12	*Toda*	20	4%
13	*Daha*	16	3.2%
14	*Karnashola*	8	1.6%
15	*Graha*	2	0.4%
16	*Siravyas*	3	0.6%
17	*ShirahShoola*	4	0.8%
18	*Sancocha*	40	8%
19	*AnnadravaShoola*	2	0.4%
20	*Tadyat*	6	1.2%
21	*Bheda*	4	0.8%
17	Total	500	100%

Out of 500 cases maximum 28.6% were suffered with *Stambha*, followed by 23% cases of *Gaurav*, 17.4% cases of *Chatita*, 8% cases of Sancocha, 4.2% cases of *vrikkashoola*, 4% cases of *toda*, 3.2% cases of *Daha* 1.6% cases of *Karnaashoola*, 1.4% cases of *Udveshtana*, *Sparshasahatva*, *Sphurana*, 1.2% cases of Tadan, 0.8% cases of *bheda*, *Shirahshoola*, *Kartan*, 0.6% cases of *Siravyas* 0.4% cases of *Annadravashoola*, Billiary colic, *Graha* and 0.2% cases of *Pipilikasraptiev*, *Sakthiutkshepanigrahati*.

Table 2 : Showing Distribution of Pain associated with Disease of 330 Patient

S.N.	Disease	Type of Pain	Site of Pain	% of Patient
1	*Sandhivata*	*Stambha*	Knee joint	4.24
2	Leucorrhoea	*Stambha*	*Kati*, Thoracolumbar region Heel	6.97
		Udvestana	*Pindika*	1.21
		Sancocha	Lower abdomen	1.21
		Gaurav	Lower abdomen,Both Leg	3.03
		Chatita	Lower abdomen, All joints	2.42
3	Diabetes	*Stambha*	Whole Body, Knee, Heel	2.42
		Toda	Knee joint	1.82
		Daha	Knee joint, Heel	4.85
		Chatita	*Pindika*	1.21

4	*Amavata*	*Chatita*	Knee, Alljts	2.42
		Gaurav	Above Knee	1.21
		Stambha	All jts, Armjts, Kneejt	4.55
		Sparshasahatva	Wrist joints	1.21
5	Chikengunia	*Toda*	Extremities of finger, Finger and palm	2.42
		Stambha	Hand, foot, Knee, Elbow, Kati, Kneejt, All joints	3.64
		Chatita	Knee jt, All joints	2.42
		Gaurav	All jts, Both legs	2.73
6	Typhoid	*Gaurav*	Abdomen	0.91
		Sancocha	Epigastrium	0.91
7	*Dhaat*	*Gaurav*	Lower abdomen	1.21
		Stambha	Knee, Lumbar region	3.94
		Sancocha	Hip to legs	2.73
8	*SwasaRog*	*Stambha*	Chest	0.60
9	*Avbahuka*	*Sakthiutkshe-panigrahnati*	Shoulder joints	0.30
10	*Gridhrasi*	*Sancocha*	Lt leg	1.21
11	*Amoebiasis*	*Stambha*	Kati	0.91
12	*Pratisyaya*	*KarnaShoola*	Ear	2.42
13	Dengue	*Sancocha*	*Pindika*	0.60
14	Cervical Spondylosis	*Stambha*	Shoulder joints	0.60
15	Lumbar Spondylosis	*Graha*	*Kati*	0.60
16	PID	*Toda*	Lower abdomen	1.82
17	Cervical Spondylytis	*Stambha*	Neck Region	1.82
18	*Bhagandar*	*Chatita*	Rectal Passage	0.91
19	Inguinal hernia	*Gaurav*	Rt inguinal region	0.60

Out of 330 cases maximum 6.97% were suffered with *Stambha* associated with disease Leucorrhoea, followed by 4.85% cases of *Daha* associated with disease Diabetes, 4.24% cases of *Stambha* associated with disease *Sandhivata* and 4.55% cases of *Stambha* in *Amavata*.

Table 3 : Showing Distribution of Pain associated with Cause of 330 Patient

S.N.	Causes	Types of Pain	Site of Pain	%
1	High B.P.	*Sphurana*	Upper Limb	0.60
		Chatita	Knee, Elbow joints	1.82
		SiraVyas	Knee, Heel, Hand	0.91
		Stambha	Lumbar Region	1.21
		ShirahShoola	Head	1.21
		Tadyat	Lumbar Region	1.21
2	Sacralization of L5Vertebra	*Stambha*	Sacral Region	0.60
3	Severe Hematuria	*Chatita*	All joints	0.91
4	Sprain	*Sancocha*	Foot	0.91
5	Decrease IVD Space at C5-C6/C6-C7 Vertebra	*Sancocha*	Cervical Region	0.91
6	Menorrhagia	*Stambha*	Knee joints	1.82
7	Menopause	*Stambha*	Knee joints, All joints	2.42
		Chatita	*Kati*	1.21
8	Excessive work in Sutika Kala	*Gaurav*	Lower abdomen	1.21
9	After Stop feeding	*Stambha*	All joints	0.91
10	Heavy weight lifting	*Bheda*	Shoulder, Hand	1.21
		Sancocha	Leg	0.91
11	Drinking Hard Water	*Stambha*	Both Knee	0.91
12	*Avarana*	*Stambha*	Lumbar region to knee joints, Kneejt, Kati and pindika	2.73
		Sancocha	Knee joints	1.21
		Chatita	Knee, Heel	2.42
13	Excessive Urination	*Tadyat*	Both legs	0.60

Out of 330 cases maximum 2.73% were suffered with *Stambha* associated with cause *Avarana*, followed by 2.42 % cases of *Chatita* associated with cause *Avarana*, Same % cases of *Stambha* due to Menopause and 1.86% cases of *Chatita* due to High B. P.

Table 4 : Showing Distribution of Pain associated with USG of 170 Patient

S.N.	Types Of Pain	Site Of Pain	USG	%
1	*Gaurav*	Lower abdomen	PID	11.74
2	*Udvestana*			1.76
3	*Chatita*			4.70
4	*Sparshasahatva*			1.18
5	*PipilikaSraptiEv*			0.59
6	*Stambha*			1.76
7	*VrikkaShoola*	Renal angle, loin to groin, Loin, Loin to groin	B/L Renal Calculus Rt Renal Calculus Lt Renal Calculus Lt Hydronephrosis	12.35
8	*Sphurana*	Rt iliac region Lt renal angle Groin region	Rt VUJ Calculus Lt renal Calculus Lt VUJ Calculus	2.35
9	*Chatita*	Groin Region	Lt Ureteric Stone	2.35
10	*Billiary Colic*	Rthypochondrium	Cholelithiasis	1.18
11	*Gaurav*	Testicular region	Rt hydrocele, Lt hydrocele	1.18
12	*Gaurav*	Lower abdomen	Small gut loops are prominent	0.59
13	*Sparshasahatva*	Rt iliac region	Appendicitis	0.59
14	*Kartan*	Lower abdomen	Sub Mucosal fibroid	0.59
15	*Gaurav*	Lower abdomen	Gr 1 enlarged Prostrate	0.59
16	*Sphurana*	Lower abdomen	Gr 1 enlarged Prostrate	0.59
17	*Chatita*	Lower abdomen	Gr 2 enlarged Prostrate	1.18
18	*Gaurav*	Lower abdomen	Hepatomegaly, Gr 2 enlarged Prostrate	2.35
19	*Gaurav*	Chest	Rt Pleural Effusion	1.18

Out of 170 cases maximum 12.35% cases of *Vrikka Shoola* associated with Calculus,11.74% cases were suffered with Gaurav in lower abdomen associated with disease PID, followed by 4.70% cases of *Chatita* associated with disease PID.

Out of 170 cases maximum 4.70% were suffered with *Chatita* associated with cause Cervicitis, followed by 4.12 % cases of *Gaurav* associated with cause Leucorrhoea, *Udavarta*.2.94 % cases of *Chatita* due to Leucorrhoea and *Sancocha* due to amenorrhoea associated with Lt ovarian cyst.

Discussion & Conclusion

Acording to *chakrapani* Acharya *roga* is nothing but the *ruja*.[7] Aim is the presenting feature in every disease and it is the important factor by which patient come to doctor. In Gulma chapter Acharya charaka states that shool is due to obstruction of vata by vitiated kapha and pitta.[8] In the Classic given that ''जींज श्वातादृतेनास्ति रूजाश्'' here we had tried observe this quotation on different population. It is our sincere effort to make this important factor easier in our day to day practise.

By this study we conclude that how the property of *dosha* can produce pain.Which have been concluded in following points.

Types of pain

Chatita– This type of pain is associated with *shotha*.In this type of pain Circulation is obstructed due to *shotha*. In Leucorrhoea 5.36%,Diabetes 1.21%,Amavata 2.42%,Chikengunia 2.42%,*Bhagandar* 0.91%, Due to High bp 1.82%, Severe hematuria 0.91%, Menopause 1.21%, *Avarana* 2.42% Ureteric Calculus 2.35%.Grade 2 enlarged prostrate 1.18%, Grade 3 enlarged prostrate 0.59%, Retension of urine 0.59%,Endometritis 1.77%, Cervicitis 4.70%, Menorrhagia 1.18%, in perimenopausal period 0.59%.

Stambha- This type of pain is due to *Vriddhi* in *Avaisadyaguna* of *Vata*. In *Sandhivata* 4,24%, Leucorrhoea 8.15%, Diabetes 2.42%, *Amavata* 4.55%, Chikengunia 3.64%, *Dhaat* 3.94%, *Swasrog* 0.60%, Amoebiasis 0.91%, C.Spondylosis 0.60%,C.Spondylitis 1.82%, due to High bp 1.21 %, Sacralization 0.60%, Menorrhagia 1.82%, Menopause 2.42%, After stop feeding 0.91%, Drinking hard water 0.91%, *Avarana* 2.73%. .

Gaurav- Gaurav type of pain is due to *sanga* of *Vata* by *Guruguna* of *Kapha*. In Leucorrhoea 7.15%, *Amavata* 1.21%, Chikengunia 2.73%, Typhoid 3.26%, Dhaat 1.21%, Inguinal hernia 0.60%,PID 11.74%,Hydrocele 1.18%, Grade 1 enlarged prostrate 0.59%, Grade 1 enlarged prostrate 2.35%, pleural effusion 1.18%, Due to Excessive work in sutika kala 1.21%,small gut loops enlarge 0.59%, Ovarian cyst 1.18%,UB Mass 0.5i%, Dermoid cyst 0.59%,Vaginitis 1.18%, Abortion 0.59%.

Sankocha –*Sancocha* type of pain is due to *Vriddhi* of *Kharatva*and *Rukshatvaguna* of *vata* and by increase of these *gunas* leads to *Sanga* of *Vata*. In Leucorrhoea 1.21%, Typhoid 0.91%, Dhaat 2.73%,Dengue 0.60%, due to Sprain 0.91%, Decrease IVD Space 0.91%, Heavy wt lifting 0.91%, *Avarana* 1.21%, Ovarian cyst 2.94%.

Vrikkashoola– This type of pain due to Obstruction of circulation by stone.This shoola is due to *Sanga* of *Jalasamvahana*.12.35% cases of *Vrikkashoola* are found

Billiary colic – This type of pain may be due to Sanga of bile circulation by stone Cases of billiary colic 1.18% are found.

Gridhrasi– This is a type of pain due to *VriddhiChalatva* and *Saratvaguna* of *Vata*. Cases of *Gridhrasi* 1.21% are found.

Bheda– This type of pain due to *Vriddhi* of *Chala* and *Vaishadyaguna* of *Vata*. Due to Heavy weight lifting 1.21%cases are found

Udavarta – This type of pain may be due to *Apanavayudusti*. Cases of *udavarta* in female 7.65%, and in male 10% are found..

Udveshtana - This is type of cramp. This type of pain may be due to *Sukshma*, *Laghu* and *Chalaguna* of *Vata*. In Leucorrhoea 1.21% cases of *udveshtana* are found..

Annadravashoola – *Drava-dhukdhukiivahridyam*, this pain means just after heavy meal heart pulsate rapidly, this may be due to *Ruksha* and *chalaguna* of *Vata*. Cases of *Annadravashoola* 1.18% are found.

Tadan – This type of pain may be due to *Rukshaguna* of *Vata*. Due to High bp 1.21%, Excessive urination 0.60% cases are found.

Sparshasahatva – means Tenderness, pain in touching, this may be due to *Vaishadya*, *Roukhshya* and *Sukshmaguna* of *Vata*. In disease

Amavata 1.21%, Appendicitis 0.59% cases are found..

Pipilikasraptiev – It is a type of Hyperaesthesia and this may be due to *Vaishadya*, *Roukhshya* and *Sukshmaguna* of *Vata*.

Sakthiutkshepanigranhati – This type of pain may be due to defect in Muscle, Motor neuron, Blood circulation. In *Avbahuka* 0.30% cases are found..

Sphurana – This is a type of pulsation, which may be in *Dhamani*, Muscle etc.this may be due to *Chalaguna* of *Vata*. Due to High bp 0.60%,calculus 2.35%, Grade 1 enlarged prostrate 0.59% cases are found..

Kartan – Cutting type of pain, this may be due to *Chalaguna* of *Vata*. Due to sub mucosal fibroid 0.59%, Bulky uterus 0.59% cases are found. .

Toda – Pricking type of pain, this may be due to *Sukshmaguna* of *Vata*. In Diabetes 1.82%, Chikengunia 2.42%, PID 1.82% cases are found.

Daha – Burning sensation, this may be due to *Ushnaguna* of *Pitta* and *Chalaguna* of *Vata*. In Diabetes 1.82% cases are found..

Graha – This type of pain may be due to *Sanga* of *Vata* by *Manda*, *Guru*, *Pichchhilaguna* of *Kapha*. In Lumbar spondylosis 0.60% cases are found..

Vyas – Means Dilatation, This type of pain may be in effort of expanding *Vata* between the process of *Sanga* and *Vimargagaman*. In High bp 0.91% cases are found..

Shirahshoola – This type of pain may be due to increase ICP. In High bp 1.21% cases are found.

Karnashoola - This type of pain may be due to infection. Due to *Pratishyay* 2.42% cases are found.

Conclusion

According to the survey we can conclude that in every type of *Ruja* or *Shoola* there is vitiation of *Vatadosha*. Among *Tridosas*, *Vata Dosa* has more importance for the pathophysiology of pain.

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Clinical Study

Role of *Asthishrankhala* in early mobilization for the management of *Asthi- bhagna* w.s.r.to Colle'sfracture

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Abstract:

Colle's fracture is the commonest fracture in people above forty years of age, and is particularly common in women because of post-menopausal osteoporosis.So the problem faced by the medical practitioner regarding colle's fracture provides much scope for systematically study.Inpresent study clinical evaluation was done to evaluate the effect of *Asthishrankhala* (*Cissusquadrangularis Linn.*).30 registered, clinically diagnosed and confirmed patients of colle's fracture were selected for the present clinical trial from OPD/IPD of NIA, Jaipur. They were randomly divided in 3 groups following of 10 patients each, Group A-treated with only external application, Group B-treated with only internal application and Group C-treated with both external and internal application of *Asthishrankhala (Cissusquadrangularis Linn.)*. At the end of study it was found that results were highly significant in group B & C (Combined therapy).

सारांश :

कोलीस फ्रेक्चर आयु वर्ग 40 के ऊपर में बहुतायत से मिलने वाली व्याधि है। पुरुषों की अपेक्षा महिलाओं में मासिक धर्म समाप्ति के पश्चात होने वाले अस्थि क्षय के कारण सामान्यता ज्यादा पाया जाता है। प्रस्तुत चिकित्सीय अध्ययन उक्त रोग पर अस्थि श्रंखला औषधि का प्रभाव देखने के लिये किया गया है। रा.आ.स.जयपुर के अन्तरंग एवं बहिरंग विभाग से कुल 30 रोगीयों का चयन किया गया जिन्हे तीन समूहो मे बाँटा गया। ग्रुप-(अ) केवल बाह्य उपयोग किया गया। ग्रुप-(ब) केवल आभ्यान्तर उपयोग किया गया। ग्रुप-(स) दोनो तरह से उपयोग किया गया। चिकित्सीय अध्ययन के उपरान्त मे देखा गया कि ग्रुप-(ब), ग्रुप-(स) मे परिणाम सान्ख्यकीय रूप से उत्साह जनक पाये गये।

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Clinical Study

Role of *Asthishrankhala* in early mobilization for the management of *Asthi- bhagna* w.s.r.to Colle'sfracture

Dr. Jain Neetu, Dr. Jain Vineet Kumar, Dr. Kumar Alok, Dr. Pandey Brij Bhushan

Introduction

Colle's fracture is a fracture at the distal end of the radius, at its cortico-cancellous junction (about two cm from the distal articular surface) with typical displacement.[1] It mostly results from a 'slip and fall' on an outstretched hand. No detailed description of this disease is available in ancient text. Colle's fracture may be correlated with a type of *kandbhagna* describe in twelve type of *Kandbhagna* in *Sushuta Samhita Nidansthan*[2].

It is the commonest fracture in people above forty years of age, and is particularly common in women because of post-menopausal osteoporosis[3]. So the problem faced by the medical practitioner regarding colle's fracture provides much scope for systematic study.

Few traditional practitioners specifically dealing with fractures, called 'Bone setters', have been effectively using herbal drugs over many centuries. Many of these drugs are simple, easily available, cost effective and potent.

For an un-displaced fracture immobilization with below elbow plaster cast for six week is standard treatment and for displaced fracture standard management is manipulative reduction followed by immobilization with Colle' scast.[4]

The scientific evaluation of such drugs along with their fundamental principles is essential for their universal acceptance. Hence in this study an attempt is made to prepare a drug about which there are textural references regarding *Asthibhagna Sandhan*. Through clinical trial in the present study it has been tried to prove the efficacy of the *Asthishrankhala* in early mobilization for the management of Colle's fracture.

There are so many complications of plaster treatment. some of this are impairment of circulation (tight cast), plaster sores, excessive pain, disturbed sleep, recurrence of swelling over toes or swelling over toes or fingers, low grade fever, soakage of the plaster.[5]

There are various fractures healing promoter drug described in Ayurveda books[6] and *Asthishrankhala*is one of them[7]. So I have decided to evaluate the effect of the drug in early mobilization in the management of colle's fracture.

Aims And Objectives:

Primary Aim-

- To decrease the period of immobilisation

Secondary Aim-

- To evaluate the efficacy of *Asthishrankhala*
- To evaluate the effect of *Asthishrankhala* on healing time
- To provide cheap, economic and side effect free drug

Materials & Method:

Selection of Patient- 30 clinically diagnosed Patients of Colle'sfracture have been selected from the OPD & IPD units of P.G. Department of ShalyaTantra, NIA, Jaipur.

A) Age group: Between 30-70 yrs.

B) Sex: Either Sex

C) Study Design : Randomized

D) Study Center : Uni-central

E) Sample Size and Method: Total 30 Patients

Trail Methodology-

The modern methodology for trial & statistic design was suitably adopted for the present study.

Simple Random Sampling-

The selection of patient for the present study was done in a randomized design. Here, the every unit of the population had an equal chance of being selected, which sometimes called as 'unrestricted random sampling.

Grouping of Patients

30 registered, clinically diagnosed and confirmed patients of colle's fracture were selected for the present clinical trial and randomly divided in following three groups of 10 patients each.

GROUP-A:

Drug used*: Asthishrankhala Lepa*

Drug Dosage: 15gms*Churna*mixed with water, after every 24 hrs.*Lepa* was changed.

Site of *lepa*: At the fracture site and 3cm above and below the fracture site

Preparation method: The *lepa* was prepared daily with water.

GROUP-B:

Drug used: *Asthishrankhala Churna*

Drug Dosage: 3gms. BD, with cow's milk as *Anupana.*

Preparation method: The *Churna*was prepared in NIA pharmacy.

Group-C:

Drug used: *Asthishrankhala Churna & Asthishrankhala Lepa.*

Drug administration: As mentioned above for both, *Asthishrankhala Churna* and *Asthishrankhala Lepa*. The *Churna* was administered internally, whereas *Asthishrankhala Lepa* was applied externally.

Duration of Clinical Trial-

Duration of immobilization - 4 weeks

Duration of oral drug administration - 6weeks

Duration of *Lepa* - 2weeks

Inclusion Criteria-

- Patients of age group 30-70 yrs. of either sex.
- Patient is willing for trail and ready to give informed consent.
- Patient having Colle'sfracture which can be reduced by closed reduction method with or without general anaesthesia.

It is not possible to find all these features in all the patients but the presence of maximum features was the main stay of diagnosis.

Exclusion Criteria-

- Patient is not willing to undergo trials or refused to give informed consent
- Patients below 30 yrs. or above 70 yrs. of age.
- Patients having TB, Hypertension, Diabetes, Cardiac disorder or some constitutional disorder.
- All fracture other thanColle's fracture.
- Open fracture.
- Multiple fractures.
- Subluxation of the inferior radio-ulnar joint.
- Colle's fracture having significant angulation and deformity.
- Fracture required open reduction and internal fixation.

Investigations:

X- Ray - X ray was taken on day 1 to diagnose the fracture, its type, severity and prognosis. The follow up x ray was taken at the end of third week, & six week.

Serum alkaline phosphate - On day 1, at 3 weeks, at 6weeks.

Observation of Patient During Treatment:

Standard treatment for colle's fracture – Immobilisation for six weeks

Duration of study: 6 weeks.

Time interval for assessment of progress: Weekly.

Presentation of observation: Through tables & Graphs.

Assessment Criteria:

The improvement in the patient was assessed mainly on the basis of relief in the cardinal sign & symptoms of disease.

A) Subjective criteria-

1) Pain
2) Swelling
3) Loss of function:

B) Objective Criteria-

1) Tenderness:
2) Callus assessment:

Observations And Results:

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

Demographic profile-

Demography of general profile - it includes incidence of age, sex, marital status, education, occupation, economic status etc.

Results of therapeutic Trial-

It includes results on various parameters in all three groups of 30 patients registered for current clinical trial to evaluate the efficacy of *Asthishrankhala* in the management of colle's fracture.

While anchoring the study, total 35 patients were registered on the basis of inclusion criteria from IPD & OPD of NIA. Among all the patients enrolled for the study 5 patients failed to complete the study due to non-compliance of the protocol or were withdrawn due to various reasons. Remaining 30 patients were assorted in to 3 groups.

(Table-I) Comperative Assessment Of Symptomatic Relief (In %) In Group A, B & C

S. No.	Symptom	Group A	Group B	Group C
1	Pain	42.86	73.34	84.62
2	Swelling	35.72	76.93	64.29
3	Tenderness	38.10	27.28	60.00
4	Loss of function	42.86	56.25	64.29

(Table-II) Assessment Of Pain In Group A, B & C

Sr. No.	Group	*n*	Mean BT	Mean AT	Mean Diff.	Mean Relief	SD (±)	SE (±)	t value	P value	Res-ults
1	GROUP A	10	1.4	O.8	0.6	42.86	0.51	0.16	3.67	< 0.005	S
2	GROUP B	10	1.5	0.4	1.1	73.34	0.56	0.17	6.12	< 0.001	HS
3	GROUP C	10	1.3	0.2	1.1	84.62	0.56	0.17	6.12	<0.001	HS

(Table-III) Assessment Of Swelling In Group A, B & C

Sr. No.	Group	*n*	Mean BT	Mean AT	Mean Diff.	Mean Relief	SD (±)	SE (±)	t value	P value	Res-ults
1	GROUP A	10	1.4	0.9	0.5	35.72	0.53	0.16	3.0	< 0.05	S
2	GROUP B	10	1.3	0.3	1	76.93	0.47	0.19	6.70	< 0.001	HS
3	GROUP C	10	1.4	0.5	0.9	64.29	0.56	0.17	5.01	<0.001	HS

after menopause, there is 25-30% loss of bone density in females. This post-menopausal osteoporosis is responsible for increased incidence of colle's fracture in females.

Occupational Status- In the present study incidence of colle's fracture was maximum in house wives (56.67%) followed by govt job employee (13.33%), farmer (10%), businessmen (6.67%), retired employee (6.67%) Labourer 1 (3%) & student (3%). So number of incidence of colle's fracture is different in patient with different occupation. This may be due to the number of patients included in the study was limited and due to random selection of patient. But number of house wives was significantly higher than others. This may be due to their nature of work. Women use to work for long hours in wet surface, like in bathroom which puts lot of chance to slip. Secondly due to lack of nutritious diet and due to hormonal imbalance which leads to osteoporosis in them.

Prakruti- In this study almost half (47%) of the patients were from *Vata-Pitta Prakruti*. This is may be due to active nature of *VataPrakruti* people as well as they may have more fragile bones. These might be reasons that fractures are more reported in *Vata Prakruti* people.

Signs and symptoms -The most common signs and symptoms observed in fractured patients were pain, swelling and tenderness. To assess these signs and symptoms they are graded as per their characters. The aim of this clinical study was to assess the effect of *Asthishrankhala* on fracture healing, pain & swelling tenderness. After 6 weeks treatment % relief in pain in group A, B and C was 42.85 ($p<0.005$), 73.33 ($p<0.001$) and 84.61 ($p<0.001$) respectively. Hence these observations indicate that *Asthishrankhala* has analgesic activity.

There was drastic reduction of swelling after administration of drug. After 6 weeks treatment % reduction in swelling in group A, B and C was 35.71 ($p< 0.01$), 76.92 ($p< 0.001$) and 64.28 ($p<0.001$) respectively. These results indicate the efficacy of drug in reduction of swelling.

There was also reduction in tenderness after administration of drug. After 6 weeks treatment % reduction in tenderness in group A, B and C was 38.09 ($p< 0.001$), 27.27 ($p< 0.01$) and 40 ($p< 0.001$) respectively. These results indicate the efficacy of drug in reduction of tenderness. Effect on these signs and symptoms of inflammation indicate about anti-inflammatory nature of Asthishrankhala.

Callus formation, a part of initial fracture healing is influenced by various factors. Age is one of the important factor that influence callus formation. In younger patients callus formation and fracture healing is early as compare to the adults and elderly. This might be due to the increased vascularity as well as ability of cells of periosteum to differentiate more in younger individuals. In this study although most of the patient were older age group yet callus formation was good in these older age patient due to Asthishrankhala. Callus formation is also dependent on part of bone involved. Callus formation is more in diaphyseal fractures than in metaphysical fractures. As this study was specified to fracture of lower end of radius where callus formation should be poor but due to Asthishrankhala callus formation was also good in this part of bone. In group C Callus formation was good incomparison to group A & B. In this study grading of callus formation was not done because it was very difficult to grade callus formation radio logically.

Action of Drugs-

In the present study the action of trial drug *Asthishrankhala* could be explained on the basis of their *Rasa, Guna, Veerya* and *Vipaka*& pharmacological action.

Asthishrankhala have *Sandhaniya, Raktaprasadaka* nature[8]. It also have *Ushna Veerya* nature[9] which may responsible for the reduction of the swelling around fracture area as well as helps to penetrate it in to local tissue for action. *Asthishrankhala* has *kapha vata-shamaka* nature[10] mayreduce the local oedema.

Due to *Madhura Rasa*properity of *Asthishrankhala*[11] local *Vata Dosha Shamana* takes placed so that pain is reduced. Chemically *Asthishrankhala* has calcium oxalate, carotene and ascorbic acid which are responsible for early callus formation.[12]

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Clinical Study

Clinical evaluation of efficacy of '*Rasnaguggulu*' '*Rasnapanchak Kwath*' and '*Jaanu Basti*' in the management of *Sandhigatavata* (Osteoarthritis)

*Dr. Girdhar, **Dr. Chandra Bhanu Sharma, ***Dr. Jai Prakash Singh

Abstract:

The study was conducted in 33 clinically diagnosed patients of *Jaanusandhigatavata*. These patients were divided into three groups of 11 patients each. In group A patients were treated with *Rasnaguggulu*, 1 gram three times in a day and *Rasnapanchak Kwath 30 ml* two times in a day for 30 days. In group B patients were treated with *Jaanu Basti of Dashamooladi Taila* for 14 days. In group C patients were treated with *Rasnaguggulu*, 1 gram three times in a day and *Rasnapanchak Kwath 30 ml* two times in a day for 30 days and *Jaanu Basti of Dashamooladi Taila* for 14 days simultaneously. It was observed that maximum percentage of relief was in group C (71.06%) followed by group A (67.14%) and minimum percentage of relief was in group B (54.06%). No side effects were noted in any of the patient during the trial.

Key words: *Sandhigatavata, Jaanu Basti*

सारांश-

प्रस्तुत चिकित्सीय अध्ययन में जानुसन्धिगत वात के 33 रोगियों पर पूर्णावधि अध्ययन किया गया। उनको तीन वर्गों में बाँटा गया तथा 'वर्ग-ए' के रोगियों को रास्ना गुग्गुलु 1 ग्राम दिन में तीन बार और रास्नापंचक क्वाथ 30 मिली दिन में दो बार दिया गया। 'वर्ग-बी' के रोगियों को रास्ना गुग्गुलु 1 ग्राम दिन में तीन बार और रास्नापंचक क्वाथ 30 मिली दिन में दो बार एवम् दशमूलादि तैल से 14 दिन तक जानुबस्ति दी गयी। इस चिकित्सीय अध्ययन में यह पाया गया कि, सर्वाधिक परिणाम 'वर्ग-सी' में (71.06 प्रतिशत) तत्पश्चात् 'वर्ग-ए' में (67.14 प्रतिशत) एवं 'वर्ग-बी' में (54.06 प्रतिशत) परिणाम मिलें। चिकित्सीय अध्ययन के दौरान किसी भी रोगी में, किसी भी प्रकार का अवाँछित प्रभाव नहीं पाया गया।

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Clinical Study

Clinical evaluation of efficacy of '*Rasnaguggulu*' '*Rasnapanchak Kwath*' and '*Jaanu Basti*' in the management of *Sandhigatavata* (Osteoarthritis)

Dr. Girdhar, Dr. Chandra Bhanu Sharma, Dr. Jai Prakash Singh

Introduction: -

Ayurveda is the most ancient science of life. The aim of *Ayurvedic* system of medicine is not only to cure the disease but also maintain the health of healthy persons, because *Ayurveda* is the system of medicine which maintain physical, Psychological as well as spiritual values of human being.

In this era all system of medicine of this world are looking towards Ayurvedic system of medicine, with a hope of maintain the health of healthy persons, because the Ayurveda have a treasure of herbal medicine and it's texts have the effective description of *Ritucharya, Dincharya, Yoga, Aahar-Vihar vidhi* in all *Ayurvedic text*.

In most of Ayurvedic classics there are eight types of diseases that severely affect the health and mostly associated with complications. These disease are very challengeable to all system of medicine, these disease are, *Vatavyadhi, Ashmarim, Kushtha, Prameha, Udara Roga, Bhagandara, Arsha and Grahani.*[1]

Among these *maharoga* the *vatvyadhi* is described first in classics, because the *vatvyadhi* includes Neurological, Musculoskeletal, Connective tissue, Bone and joint disorder. *Sandhigatavata* is also a *vatvyadhi* and it can be correlates to musculoskeletal disorders which affect bone and joint.

Acharya Charak[2] *and Vagabhatta*[3] described the disease as name of *Sandhigataanil* with symptoms of *Shotha* (swelling), *Vatapurnadri-tisparsha* (on palpation revealed as air filled beg), and pain with *Prasaran and Aakunchan* (movements).

Acharya Madhav, described that *Hanti Sandhigatah* (loss of functions) is main symptom of this disease.

Sandhigatavata has co-similar on the basis of clinical feature described in the modern medical science named as Osteoarthritis (OA). OA is defined as a chronic joint disorder with progressive softening and disintegration of articular cartilage and bone at joint margin called Osteophytes and capsular fibrosis. OA is clinically represented as joint pain in all around the joints, stiffness usually occurs after the period of rest or inactivity. Tenderness, Crepitus and Functional Impairment are also may found in OA.

Aims And Objectives Of Study

1. Conceptual and clinical study on *Jaanusandhigatavata* (Osteoarthritis of knee joint).
2. To evaluate the efficacy of ***Rasnaguggulu*** and ***Rasnapanchak Kwath*** in the management of *Jaanusandhigatavata* (Osteoarthritis of knee joint).
3. To evaluate the efficacy of ***Jaanu Basti*** in the management of *Jaanusandhigatavata* (Osteoarthritis of knee joint).
4. To evaluate combined efficacy of ***Rasnaguggulu, Rasnapanchak Kwath*** and ***Jaanu Basti*** in the management of *Jaanusandhigatavata* (Osteoarthritis of knee joint).

Materials & Method

A. **Selection of cases: -**

39 clinically diagnosed patients of *Jaanusandhigatavata* (Osteoarthritis of knee joint) were selected from Arogyashala outdoor patients & indoor patients of National Institute of Ayurveda, Jaipur.

B. Inclusion criteria

1) Patients of age group 30 to 70 year of either sex.

2) Patients with sign and symptoms of *Jaanusandhigatavata*.

3) Patients with Chronicity of less than 3 years.

4) Patients who were signature/Thumb marked the consent form for the trial.

C. Exclusion criteria

1) Patients who were below age of 30 year or over age of 70 years.

2) Patients with Chronicity of more than 3 years.

3) Patients who were suffering from Paralysis, Septic arthritis, Brucellosis, Pyogenic Osteomylitis, Rheumatoid arthritis, Gout, Ankylosing or Traumatic arthritis.

4) Patients who were suffering with neoplasm of spine and other complicated disease like Congestive cardiac failure, Diabetes mellitus, Hypertension etc.

5) Patients who were raised value of Serum Uric acid than normal value.

6) Patients with extremely reduce of joint space.

D. Administration & Dose of drugs

39 clinically diagnosed patients of *Jaanusandhigatavata* were registered for trial and they were divided randomly in three groups. In group A, 11 patients were treated by ***Rasnaguguulu*** 1 gm three times in a day with lukewarm water and ***Rasnapanchak Kwath*** 30 ml two times in a day for 30 days. In Group B, 11 patients were treated by ***Jaanu Basti*** for 45 minutes once a day for 14 days, with ***Dashamooladi Taila***. In group C, 11 patients were treated by ***Rasnaguguulu*** 1 gm three times in a day with lukewarm water and ***Rasnapanchak Kwath*** 30 ml two times in a day for 30 days with ***Jaanu Basti*** for 45 minutes once a day for 14 days, with ***Dashamooladi Taila***. **06** patients were dropped out from the trial.

E. Criteria for withdrawal

During the course of trial if any serious condition or any serious adverse effect which require further treatment or patient himself want to withdrawn from the trial and managed by the direction of principle investigator.

F. **Trial drugs**

1. *Rasnaguggulu*

S.N.	Drugs	Botanical Name	Part Used	Quantity
1	*Rasna*	*Pluchea lanceolata*	Leaf	4 Part
2	*Shuddha Guggulu*	*Commiphora mukul*	resin	5 Part
3	*Gou Ghrit*			As per Requirement

2. *Rasnapanchak Kwath*

S.N.	Drugs	Botanical Name	Part Used	Quantity
1	*Rasna*	*Pluchea lanceolata*	Leaf	1 Part
2	*Amrita*	*Tinospora cordifolia*	Stem	1 Part
3	*Devdaru*	*Cedrus deodara*	Heart Wood	1 Part
4	*Shunthi*	*Zingeber officinale*	Rhizome	1 Part
5	*Erand*	*Ricinus communis*	Moola	1 Part

3. *Dashamooladi Tail* (*Kalpit Yoga* for *Jaanu basti*)

S.N.	Drugs	Botanical Name	Part Used	Quantity
1	*Bilwa*	*Aegle marmelos*	Moola	1 Part
2	*Agnimanth*	*Premna mucronata*	Moola	1 Part
3	*Shyonak*	*Oroxylum indicum*	Moola	1 Part
4	*Patla*	*Stereospermum suaveolance*	Moola	1 Part
5	*Gambhari*	*Gmelina arborea*	Moola	1 Part
6	*Shalparni*	*Desmodium gangeticum*	Moola	1 Part
7	*Prishniparni*	*Uraria picta*	Moola	1 Part
8	*Brihti*	*Solanum indicum*	Moola	1 Part
9	*Kantkari*	*Solanum surattense*	Moola	1 Part
10	*Gokshur*	*Tribulus terrestris*	Moola	1 Part
11	*Bala*	*Sida cordifolia*	Moola	1 Part
12	*Ashwagandha*	*Withania somnifera*	Moola	1 Part
13	*Tila Tail*	*Sesamum indicum*	Seed's Oil	As per Requirement

All three drugs were prepared in NIA *Rasayan shala* according to classical instructions *(Bhavprakash & Sharangdhar Samhita).*

G. Duration & Follow up Study

1. 30 days for oral drugs.
2. 14 days for Jaanu Basti
3. Patients were followed up after 7 days regularly.

H. Method of administration of Jaanu Basti

A boundary was made-up with flour paste of Urada, in the Jaanu Pradesh (knee joint) and lukewarm Dashamooladi taila was poured and retained for 45 minutes daily for 14 days. The oil was changed frequently for maintaining the temperature of the oil to a particular level. Oil for Jaanu Basti was change after seven days.

I. Criteria of assessment

During the trial patients were assessed on these following parameters

1. Subjective improvement
2. Objective improvement

1. Subjective improvement: - All registered patient for clinical trial were assessed on the following sign and symptoms of Jaanusandhigatavata.

a) Sign & Symptoms

1. Shoola (Pain) :- Assessment of pain was by Visual Analogue Scale
2. Shotha (Edema)
3. Vatapurnadritisparsha.
4. Sparshaasahyata (Tenderness)
5. Crepitation
6. Walking time for 30 meters
7. Stabdhata (Stiffness)
8. Hanti Sandhigatah (Loss of functions)
9. Functional Capacity
10. Ushnata (Warmthness)

b) Parameter

Western Ontario & McMaster universities index (WOMAC)

Pain

The assessment of pain was done under **Visual Analogue Scale** (VAS).

***Shotha* (Oedema)**

Shotha was measured in cm in accurate middle of affected knee joint in completely expanded leg. *Shotha* was not graded by any grading method.

Vatapurnadritisparsha

Vatapurnadritisparsha condition was assessed only on present and absent grading method. 0 grading was given when *Vatapurnadritisparsha* condition was not found in patients and 1 grading was given when *Vatapurnadritisparsha* condition was found in patients.

Ushnata (Warmthness) and **Crepitations** of effected joint and were also graded by present and absent method of grading.

Sparshaasahyata

Sparshaasahyata, the tenderness was assessed by The Ritche Scale of tenderness. This scale has four point of grading 0, 1, 2 and 3.

0 Means no tenderness at all.

1 Means tenderness without Vinci voice by the patients.

2 Means tenderness with Vinci voice by the patients.

3 Means tenderness with disconnect the touch of examiner.

Stabdhata (Stiffness), ***Hanti Sandhigatah*** (Loss of function) and **Functional Capacity** were measured by **Womac** criteria of arthritis.

Western Ontario & McMaster Universities Osteoarthritis index (WOMAC), has total 24 questions in itself.

Each question has five type of grading 0 to 4. 0 means no severity, 1 means mild/slight severity, 2 means moderate severity, 3 means severe condition, 4 mean extreme severity.

So after this grading, the grading was in between 0 to 96.

Walking Time

We measure the time in seconds, which was taken by the patients for 30 meter of walking, without any grading.

2. Objective improvement:- Following investigations were assessed as Objective improvement

a) Laboratory Investigations

1. Hemoglobin gm %
2. Total Leucocytes Count
3. Differential Leucocytes Count
4. Erythrocyte sedimentation rate
5. Serum Calcium

b) Radiological investigations

X-Ray (Knee joint AP/Lateral)

J. Improvement in sign & symptoms was assessed as follows

Complete relief	: -	100%
Marked relief	: -	75 – 99%
Moderate relief	: -	50 – 75%
Mild relief	: -	25 – 50%
No relief	: -	00 – 25%

Observations & Results

In demographic profile we found that maximum number of patients were from 41-50 age group 14 (35.90%) patients, Female gender 20 (51.28%) patients, Primary education 10 (25.64%) patient, Hindu religion 31 (79.48%) patients, Poor community 15 (38.46%) patients, Married 33 (84.62%) patients, Labor class 14(35.90%) patients, Hard works load 17 (43.59%) patients, *Sadharan Pradesh* 20 (51.28%) patients, Vegetarian society 26 (66.66%) patients, Equal in *Samashan, Kaal Bhojan* and *Adhyashan* dietary habits 15 each (38.46%) patients, *Katu Rasa* in diet 29 (74.35%) patients, *Ushna Aahar* 24 (61.53%) patients, Tea/coffee addiction 25 (64.10%) patients, Significant family history 24 (61.53%) patients.

In constitutional profile we found that

maximum number of patients were in *Samyak Nidra* 17 (43.60%) patients, *Samagni* 16 (41.02%) patients, *Madhyam Koshtha* 21(53.84%) patients, *Vataja Nadi Prakriti* 15 (38.46%) patients, *Vata-Pittaja Deha Prakriti* 20 (51.28%) patients, *Rajas Maanas Prakriti* 25 (64.10%) patients, *Madhyam Saar* 23 (58.98%) patients, *Madhyam Samhanan* 28 (71.79%) patients, *Sama Pramaan* 30 (73.93%) patients, *Madhyama Satmya* 32 (82.05%) patients, Equally in *Madhyama Satva* and *Avar Satva* 18 each (46.15%) patients, *Madhyam Abhyavaharan Shakti* 30 (76.93%) patients, *Avar Jaran Shakti* 22 (56.41%) patients, *Avar Vyayam Shakti* 20 (51.28%) patients and *Madhyam Vaya* (31-60 yrs) 31 (79.49%) patients.

In clinical profile we found that maximum number of patients were from *Laghu Aahar* as *Nidaan* 35 (89.74%) patients, Pain in rest as well as in movements and *Shotha* as sign & symptoms in all 39 (100%) patients, 1-2 years chronicity in 24 (61.53%) patient, Family history as risk factor in 24 (61.53%) patients, Using of stairs as aggravating factor in 15 (38.46%) patients and Right knee involvement in 22 (56.41%) patients. In study of X-Ray findings we got that the osteophytes found in 21 (53.85%) patients and reduced joint space found in 32 (82.05%) patients.

Table No. 1 - Efficacy of therapy in Group A in sign & symptoms in 11 patients of *Jaanu Sandhigatavata* (Osteoarthritis of Knee Joint).

Sign & symptoms	Mean		Diff.	% Relief	SD (±)	SE (±)	t	P	R
	BT	AT							
Prasaran Aakunchan Vedana (Pain)	8.27	5.45	2.82	34.06	1.08	0.32	8.6	<0.001	HS
Shotha	1.13	0.41	0.72	63.71	0.27	0.19	8.66	<0.001	HS
Vatapurnadritisparsha	1.0	0.36	0.64	63.64	0.50	0.15	4.18	<0.01	S
Sparshaasahyata	2.36	0.91	1.45	61.54	0.52	0.15	9.24	<0.001	HS
Crepitations	1.0	0.36	0.64	63.64	0.50	0.15	4.18	<0.01	S
Walking Time	56	48.18	7.82	13.96	3.89	0.17	6.66	<0.001	HS
WOMAC Index Score	68.09	39.54	28.54	41.92	11.25	3.39	8.42	<0.001	HS
Ushnata	0.09	0.00	0.09	100	0.30	0.09	1.00	>0.05	NS

Table No. 2 - Efficacy of therapy in Group B in sign & symptoms in 11 patients of *Jaanu Sandhigatavata* (Osteoarthritis of Knee Joint).

Sign & symptoms	Mean		Diff.	% Relief	SD (±)	SE (±)	t	P	R
	BT	AT							
Prasaran Aakunchan Vedana (Pain)	8.27	5.45	2.82	34.06	1.08	0.32	8.6	<0.001	HS
Shotha	0.98	0.45	0.53	53.7	0.19	1.08	8.95	<0.001	HS
Vatapurnadritisparsha	1.0	0.36	0.64	63.64	0.50	0.15	4.18	<0.01	S
Sparshaasahyata	2.36	0.91	1.45	61.54	0.52	0.15	9.24	<0.001	HS
Crepitations	1.0	0.36	0.64	63.64	0.50	0.15	4.18	<0.01	S
Walking Time	56	48.18	7.82	13.96	3.89	0.17	6.66	<0.001	HS
WOMAC Index Score	68.09	39.54	28.54	41.92	11.25	3.39	8.42	<0.001	HS
Ushnata	0.09	0.00	0.09	100	0.30	0.09	1.00	>0.05	NS

Table No. 3- Efficacy of Therapy in Group C in sign & symptoms in 11 patients of *Jaanusandhigatavata* (Osteoarthritis of Knee Joint).

Sign & symptoms	Mean		Diff.	% Relief	SD (±)	SE (±)	t	P	R
	BT	AT							
Prasaran Aakunchan Vedana (Pain)	8.10	3.81	4.27	52.81	1.009	0.34	10.28	<0.001	HS
Shotha	1.96	0.64	1.32	67.59	1.08	0.33	4.06	<0.01	S
Vatapurnadritisparsha	0.72	0.09	0.64	87.5	0.50	0.15	5.75	<0.01	S
Sparshaasahyata	2	0.27	1.73	86.36	0.47	0.14	13.4	<0.001	HS
Crepitations	0.73	0.18	0.54	75	0.52	0.16	4.69	<0.01	S
Walking Time	56	38.45	17.54	31.33	5.59	1.69	9.92	<0.001	HS
WOMAC Index Score	69.36	22.27	47.09	67.90	10.6	3.20	12.14	<0.001	HS
Ushnata	0.09	0.00	0.09	100	0.30	0.09	1.00	>0.05	NS

Table No. 4 - Inter group comparison by *Kruskal-wallis* test.

S. N.	Sign & symptoms	K.W. statistic	p	R
1	*Prasaran Aakunchan Vedana (Pain)*	6.465	0.0395	S
2	*Shotha*	12.396	0.002	S
3	*Vatapurnadritisparsha*	3.765	0.1522	NS
4	*Sparshaasahyata*	10.191	0.0061	S
5	*Crepitations*	0.9412	0.6246	NS
6	*Walking Time*	12.934	0.0016	S
7	*WOMAC Index Score*	7.339	0.0255	S
8	*Ushnata*	0.000	0.999	NS

Table No. 5 - Dunn multiple comparisons post tests.

Symptoms	Comparison	Difference	P value	Significance
Prasaran Aakunchan Vedana	A Vs B	6.591	>0.05	NS
	A Vs C	3.455	>0.05	NS
	B Vs C	10.045	<0.05	S
Shotha	A Vs B	5.727	>0.05	NS
	A Vs C	8.591	>0.05	NS
	B Vs C	14.318	<0.05	S
Sparshaasahyata	A Vs B	3.727	>0.05	NS
	A Vs C	7.545	>0.05	NS
	B Vs C	11.273	<0.01	S
Walking time	A Vs B	9.955	<0.05	S
	A Vs C	4.5	>0.05	NS
	B Vs C	14.455	<0.01	S

but *Vatapurnadritisparsha*, crepitations shows significant results and *Ushnata* shows insignificant results.

From table no. 3, we got that the maximum relief in percentage in was in *Ushnata* (100%), than in *Vatapurnadritisparsha* (87.5%), than in *Sparshaasahyata* (86.36%), crepitations (75%), than in WOMAC index score (67.9%), than in *Shotha* (67.59%), than in *Prasaran Aakunchan Vedana* (52.81%) and minimum relief in percentage was in walking time (31.33%), but statistically *Prasaran Aakunchan Vedana*, *Sparshasaahyata*, walking time and WOMAC index score shows highly significant results. *Shotha, Vatapurnadritisparsha* and crepitations shows significant result but *Ushnata*, shows insignificant result.

All laboratory investigations show insignificant results in all groups.

From table no. 4, After statistical analysis of inter group comparison we got that only in *Prasaran Aakunchan Vedana (Pain), Shotha, Sparshaasahyata, Walking Time and WOMAC Index Score* show significant results. Rest of all sign & symptoms are showing insignificant results.

From table no. 5, in intergroup comparison group A Vs group B only in walking time, group A show significant result. Rest of all sign & symptoms are showing insignificant results. In intergroup comparison group A Vs group C all sign & symptoms show insignificant results. In intergroup comparison group B Vs group C, in *Prasaran Aakunchan Vedana*, *Shotha, Sparsaasahyata*, walking time and in WOMAC index score Group C shows significant result. Rest of all sign & symptoms are showing insignificant results.

From table no. 6 in the study, average percentage improvement was maximum in Group C (71.06%), followed by Group A (67.14%) and minimum relief in Group B (54.06%). So from this data it is clear that in *Jaanusandhigatavata* (Osteoarthritis of knee joint), combined (*Drugs & Jaanu Basti*) therapy is more effective than single drug/procedure therapy.

Overall assessment of therapy

In Group A, out of 11 patients, 3 (27.27%), patients achieved marked relief, 6 (54.55%) patient achieved Moderate relief, 2 (18.18%) patients achieved mild relief, and no any patient achieved complete relief. **In Group B**, out of 11 patients, 10 (81.81%) patient achieved moderate relief, 1 (9.10%) patient achieved mild relief, and no any patient achieved maximum relief and complete relief. **In Group C**, out of 11patient,8 (72.72% patient achieved Moderate relief, 2 (18.18% patient achieved mild relief, 1 (9.10%) patient achieved marked relief and no any patient achieved complete relief.

Probable Mode Of Action Of Drugs

In this clinical trial we use following drugs

1. Rasnaguggulu
2. Rasnapanchak Kwath
3. *Dashamooladi Taila* (For Jaanu Basti)

Rasnaguggulu is combination of two different drugs *Rasna* and *Guggulu*.

According to *Acharya Charak* and, *Rasna* has *Vatahar* property. *Sandhigatavata* (Osteoarthritis) is a disease with cardinal sign of pain in joints and according to *Ayurveda*'s principles *Vata* is responsible for pain. *Vatahar* property of *Rasna* will be effective in painful condition. According to *Bhavmishra Rasna* has *Shoolahar & Shothahar* effect, than *Rasna* will be effective in pain and edema in patients of *Sandhigatavata*.

Guggulu has proved anti inflammatory and anti arthritic drug, and *Acharya Charak* also described it as *Vatahar* drug than it will effective in pain and edema. *Rasna* and *Guggulu* both have ***Ushna Veerya*** property which shows *Vatahar Guna* of both drugs.

The *Rasnaguggulu may* acts in following modes

Analgesic Effect- *Rasnaguggulu* has drugs like *Rasna that* have Analgesic effect already proven by various research works.

Anti-inflammatory effect- *Guggulu* like contents is well known Ani-inflammatory herbal drugs.

The oleoresin fraction of *guggulu* possessed significant anti-arthritic and anti-inflammatory activities, the minimal effective dose being 12.5mg/

100g body weight (Santakumari,et al,1964).

Effect on *Avarana*-As the symptoms are *Sandhigatavata* resemble to that of *Kaphavritta Vyana* only *Vatashamaka* drugs they can't provide total relief, thus *Rasna and Guggulu* like drugs help in curing the *Avaraka Kapha* exposing *Avritta Vata*. This exposed *Vata* now by actions of *Vatashamaka* drugs get relieved.

Rasnaguggulu has specific properties to pacify the vitiated *Vata Dosha* in *Asthisandhis* leading to arrest of pathogenesis and progress of the *Sandhigatavata*(OA).It was observed that *Rasnaguggulu* effective only after taking long duration without any complications of *Sandhigatavata* cases. Chronic cases with long standing duration where several joints are involved and radiologically presented with the Osteophytes, *Rasnaguggulu* was least effective.

Rasnapanchak Kwath is also a compound drug having five drugs combination named as *Rasna, Amrita, Devdaru, Shunthi* and *Erand*. These all drugs have *Ushna Veerya*, *Amrita, Shunthi* and *Erand have Madhur Vipak, Devdaru, Shunthi* and *Erand have Snigdha guna.* These all factors will show *Vatahar* and *Kaphavardhak* action. *Vatahar* action will reduce pain and edema and *Kaphavardhak* action will give smoothness to joints by increasing synovial fluid.

Dashamooladi Tail (*Dashamoola Bala-Ashvagandha Siddha Tila Tail*) is kalpit yoga. This tail was used for ***Jaanu Basti*** for external *Snehan* and *Swedan*. *Dashamoola* is also mentioned as *Shothahar and Vedana shamak*. *Bala and Ashvgandha* having *Balya, Vedanashamak and Rasayan* action. *Sandhigatavata* is a degenerative disorder so *Balya and Rasayan* action will clear the channels and enhance the *Dhatu* production.

Dashamoola are useful in all *Vata* disorders, however, each drug in *Dashamoola* has its action on specific type of *Vata,* e.g. *Kantakari* and *Brihati* act on *Udana Vayu*, *Shalaparni* and *Prishniparni* and *Agnimantha* act on *Vyana Vayu*. *Bilva* and *Shyonaka* has main action on *Samana Vayu* and; and *Gokshura* pacifies *Apana Vayu (Gokhale, 1962).*

Pharmacological actions

Dashamoola extract produced CNS depressant effect. It reduced spontaneous motor activity, potentiated the pentobarbitone hypnosis and antagonized the amphetamine-induced hyperactivity. Like a major tranquillizer it has a tranquillo-sedative action. It has aspirin-like analgesic effect as well. These studies were carried out in rats (Gupta et al. 1983, 1984).

Probable Mode Of Action Of Jaanu Basti

Jaanu Basti is basically comes under local procedure, which includes two process *Snehana and Swedhana*. *Snehana* means oleation therapy using *Snigdha* medications. As the matter of fact *sneha* is a property of *Jala Mahabhuta*, Therefore the joints becomes oily and smooth due to *Snehana* which is supposed to remove the roughness and dryness of the joints, the Principal features of *Vata*. Thus the S*nehana* could be a specific therapeutic measure for vatic disorders like *Jaanusandhigatavata* (osteoarthritis of knee joints). *Swedana* consists of fomentation inducing *Sweda* or sweating. In view of its physical properties i.e. heat *(Ushna)*. *Swedana* would serve as a specific therapy for *Vattik and Kaphaja* disorders. Thus it is assumed that this concept of *Jaanu Basti* will help in pacifying *Vata* in the cases of *Jaanusandhigatavata* (osteoarthritis of knee joints).

Conclusion

Following conclusions can be drawn out from current research work.

1. On the basis of their clinical manifestations *Sandhigatavata Roga* can be correlated with disease entity Osteoarthritis, as described in modern medical science
2. *Rasnaguggulu* and *Rasnapanchak Kwath* is effective drug combination in newly diagnosed cases of *Sandhigatavata.*
3. *Jaanu Basti* as local oliation and fomentation shows quick relief but not for so long. Patient complaints of relapsing of pain within few days we stopped it.
4. Best therapeutic response was noted in combined therapy in percentage of relief basis.

5. The initial response to *Ayurvedic* therapies in respective groups was slow, which increased significantly as the duration of treatment steadily progressed.

6. It was observed that the patients were tolerated to *Rasnaguggulu*, *Rasnapanchak Kwath* and *Jaanu Basti* with *Dashamooladi taila*, very well, no any side effect or toxic effect or adverse effect were reported in any of the patient.

7. On the basis of various observations and results obtained after completion of the current research work, it can be concluded that *Rasnaguggulu, Rasnapanchak Kwath* and *Jaanu Basti* with *Dashamooladi taila* may be used separately or simultaneously in the management of *Sandhigatavata* (Osteoarthritis).

There for it can be concluded that the combined therapy of *Rasnaguggulu, Rasnapanchak Kwath* and *Jaanu Basti* with *Dashamooladi taila* is safe and effective ayurvedic treatment in management of *Sandhigatavata* (Osteoarthritis).

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Clinical Study

Effect Of *Madhukadi Taila Karnapichu & Rasnadi Guggulu In The Management Of Karnasrava W.S.R. C.S.O.M.*

*Dr. Jyoti Gupta, **Dr.Shamsa Fiaz, ***Dr. Aparna Sharma

Abstract

Karnasrava (CSOM) is a commonly occurring clinical condition in Indian population especially in poor & underprivileged children. It is an important cause of hearing loss, particularly in the developing world. The approach to treatment has been unsatisfactory, expensive and often difficult; for example parenteral antibiotics require long hospitalization and drugs are potentially ototoxic. However, such a treatment does not always provide satisfactory improvement in hearing, and is inaccessible in many developing countries.

Keeping in view all these facts, a randomized prospective clinical trial was done in P.G. Department of Shalakyatantra NIA, Jaipur (Raj.) in which total 40 patients, were divided into two groups of 20 patients each. Group (I) was treated with *Madhukadi Taila Karnapichu* and *Rasnadi Guggulu* orally and Group (II) with *Madhukadi Taila Karnapichu* only. Significant results were found in the signs and symptoms of this disease.

Keywords: *Karnasraava,* CSOM*, Madhukadi Taila, Rasnadi Guggulu.*

सारांश–

कर्णस्त्राव भारतीय जनसंख्या में पायी जाने वाली एक सामान्य व्याधि है जो मुख्यत: गरीब व वंचित बच्चों में पायी जाती है। यह विकासशील देशों में बाधिर्य का मुख्य कारण है। इस व्याधि की चिकित्सा असंतोषजनक एंव अत्यधिक मंहगी है। क्योंकि औषधियां लंबे अंतराल तक चलती है तथा औषधियों का दुष्प्रभाव कान की श्रवण शक्ति पर भी होता है।

उपर्युक्त तथ्यों को ध्यान में रखते हुए एक Randomized चिकित्सीय परीक्षण शालाक्य तन्त्र विभाग, राष्ट्रीय आयुर्वेद संस्थान, जयपुर में हुआ। इस परीक्षण में कुल 40 मरीज लिए जिनको 20–20 के समूह में रखा गया है। प्रथम समूह को मधूकादि तैल कर्णपिचु एंव रास्नादि गुग्गुल तथा द्वितीय समूह को केवल मधुकादि तैल कर्ण पिचु दिया गया है। इस चिकित्सा का परिणाम कर्णस्त्राव के लक्षणों पर सार्थक पाया गया है।

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Clinical Study

Effect Of *Madhukadi Taila Karnapichu & Rasnadi Guggulu In The Management Of Karnasrava W.S.R. C.S.O.M.*

Dr. Jyoti Gupta, Dr.Shamsa Fiaz, Dr. Aparna Sharma

Introduction

Karnasrava is a disease mentioned by *Acharya Sushruta* in the chapter named Karnaroga Vigyaniya. He has counted Karnasrava as a disease entity under 28 Karnarogas.[1] Acharya Charaka included Karnasrava as a symptom under the four types of Karnarogas caused due to vitiation of different doshas.[2] Acharya Vagbhatta has not described Karnasrava separately but considered it under Karnashula.[3]

Chronic suppurative otitis media (CSOM) is the result of an initial episode of acute otitis media and is characterized by a persistent discharge from the middle ear through tympanic perforation. It is an important cause of preventable hearing loss, particularly in the developing world.

Prevalence surveys, sampling methods,and methodologic quality, show that the global burden of illness from CSOM involves 65–330 million individuals with draining ears, 60% of whom (39–200 million) suffer from significant hearing impairment. CSOM accounts for 28000 deaths and a disease burden of over 2 million Disability- adjusted life-years (DALYs).

Patients of CSOM with intracranial or extracranial infections are more appropriately treated with surgery. However, such treatment is costly and does not always lead to satisfactory hearing improvement, and is inaccessible in many developing countries.

Daily instillation of topical antiseptics or antibiotics after meticulous aural toilet for at least 2 weeks appears to be the most cost-effective.

Considering all these points, there is a need to evolve out a safe drug which is economical and within the reach of common people. In Ayurveda various formulations are described under *Karnaroga Chikitsa Adhyaya,* which signifies the scope of research for better approach to the disease *Karnasrava*. *Madhukadi Taila Karnapichu* & *Rasnadi Guggulu* had been selected for the present study which is mentioned in *Bhaishajya Ratnavali*[4] & *Yoga Ratnakar* in the *Karnarogadhikar*. All the ingredients are having *Vrana ropana, Jantughna, Shothara* & *Vedanahara* properties.

In *Shalakya,* along with systemic medication more emphasis is laid upon local treatment by *Acharya Sushruta*. This disease also has chiefly local etiological factors, therefore local drug administration was selected as mentioned by *Acharya Sushruta* in the form of *Karnapichu*.

Aims And Objectives

To evaluate the efficacy of *Madhukadi Tailam Karnapichu and Rasnadi Guggulu internally in the management of Karnasrava on various scientific parameters*.

Materials And Methods

The study was conducted on 40 patients of *Karnasrava selected from OPD and IPD of PG Department of Shalakya Tantra, National Institute of Ayurveda, Jaipur*.

Study design- prospective, randomized, comparative study.

a) **Inclusion Criteria-**

- Age group between 5-50 years.
- Patient having specific symptoms of *Karnasrava like baadhirya, karnashula, karnakandu etc.*

b) **Exclusion Criteria-**

- Individuals below 5 & above 50 years of either sex.
- Pregnant women.
- Patients with debilitating systemic diseases like Diabetes,Tuberculosis, Hypertension etc.

- Patients having other aural pathologies like Otomycosis, Otitis externa, Furunculosis, Cholesteotoma.

Administration Of Drugs And Grouping Of Patients:

40 clinically diagnosed patients of *Karnasrava were registered and randomly divided into two groups with 20 patients in each group.*

Group I:-*Madhukadi Taila Karnapichu once daily for one month and Rasnadi Guggulu orally 2 tabs. twice daily for 1 month.*

Group II: Only *Madhukadi Taila Karnapichu once daily for one month.*

Criteria Of Assesment-

Clinical (Subjective) Parameters- Assessment of clinical features consistency of *Karnasraava, amount of Karnasraava, Karnashula, Karnakandu, Karna baadhirya, Karnanaada etc. were done by a special scoring pattern.*

Investigation (Laboratory Parameters) - Hb%, TLC, DLC, ESR, RBS.

Observations and results:

Demographic profile – In the present study maximum 25% patients belong to the age group 5-15 years, 60% patients were males, 75% were Hindu, 70% patients were residents of rural area, 35% patients were students & 50% patients belonged to lower middle class. Majority of the patients had *Vata-Kaphaja Prakriti (45%), 67.5% were of Rajasika Manasa Prakrti. Maximum no. of patients i.e. 85% patients were having history of Pratishayaya(common cold) as etiological factor. Majority of the patients had unilateral ear discharge (82.5%) in which left ear discharge was 55%. Maximum numbers of patients were suffering from karnasrava for more than 1 year (32.5%).*

Symptoms of Karnasrava were found in decreasing order of percentage as- **ear discharge (100%), deafness (65%), itching in ear (45%), earache (37.5%), tinnitus (23.33%), vertigo & headache (2.5%) each.**

Clinical profile-

Table No. 1

Showing effect of Therapy in Subjective Parametres in Group-I

(Wilcoxon matched paired single ranked test)

Variable	Mean		Mean Diff.	% Relief	S.D. (±)	S.E. (±)	w	p	S
	BT	AT							
Quantity of *Karnasraava*	***2.04***	***0.54***	***1.5***	***73.46***	***0.722***	***0.14***	***276***	***0.001***	***HS***
Consistency of *sraava*	*2.33*	*0.87*	*1.45*	*62.5*	*0.658*	*0.13*	*253*	*0.001*	*HS*
Karnashula	1.44	0.22	1.22	84.61	0.44	0.14	45	0.003	VS
Karna kandu	1.77	1.11	0.66	37.5	0.5	0.16	21	0.031	S
Karna-baadhirya	1.57	1.26	0.315	20	0.477	0.10	21	0.031	S
Karnanaada	1.69	1.15	0.53	31.81	0.51	0.14	28	0.015	S

Table No. 2

Showing effect of Therapy in Subjective Parametres in Group-II

(Wilcoxon matched paired single ranked test)

Variable	Mean		Mean	%	S.D.	S.E.	w	p	S
	BT	AT	Diff.	Relief	(±)	(±)			
Quantity of *Karnasraava*	***2.04***	***0.62***	***1.41***	***69.38***	***0.50***	***0.1***	***300***	***0.001***	***HS***
Consistency of *sraava*	*2.33*	*1.00*	*1.33*	*57.14*	*0.637*	*0.13*	*300*	*0.001*	*HS*
Karnashula	1.58	0.75	0.83	52.63	0.389	0.11	55	0.002	VS
Karna kandu	1.66	1.2	0.466	28	0.51	0.13	28	0.015	S
Karna baadhirya	1.26	1.00	0.266	26	0.457	0.11	10	0.12	S
Karnanaada	1.2	0.4	0.8	66.66	0.447	0.2	10	0.125	NS

Discussion:

Effect Of Therapy:

Quantity of *karnasrava* - *Relief in the symptom of Quantity of karnasrava was observed 73.46% in Group- I (p<0.001), and 69.38% in Group- II (p<0.001). Even though all these values are highly significant statistically, combined group (Group-I) shows more result than Group-II.*

Consistency of *karnasraava* –*The present study clearly reveals that the results of therapy in symptom of consistency of karnasraava in patients of both the groups were statistically highly significant (p<0.001). The percentage of relief was 62.5% & 57.14% in Group-I and Group-II respectively.*

***Karnashula* –** In present study there was 84.61% of improvement in karnashula in Group-I (p=0.003) and 52.63% in group-II (p=0.002), both of them were significant but combined group showed alone better result than single group. Hence Madhukadi taila karnapichu alone is not so efficacious in treatment of Karnashula.

***Karnakandu* –** The present study showed, mild relief in the symptom of karnakandu in patients of Group-I (37.5%) and 28% in patients of Group-II. Both of the groups showed statistically significant results. For Group-I p=0.031 & for Group-II p=0.015.

***Karnabaadhirya* -** In the present study, mild relief was seen in the symptom of Karnabaadhirya in patients of Group-I (20%) which is statistically significant (p=0.031) and Group-II (26%) which is also statistically significant (p=0.12). This may be due to presence of large & permanent perforation of TM which could not healed in one month therapy.

Karnanaada - There was considerable relief in the symptom of Karnanaada in patients of Group-I (31.81%) which is statistically significant (p=0.015) and Group-II (66.66%) which is statistically insignificant (p=0.125).

Probable Mode Of Action Of Madhukadi Taila & Rasnadi Guggulu:

Madhukadi Taila was prepared by Tailapaaka Vidhi upto Kharapaaka state[5], as indicated for Karnapichu[6]. Rasa of all the drugs of Madhukadi Taila & Rasnadi guggulu are Katu and Tikta; Guna are Ruksha, Laghu, Tikshna; Snigdha and Ushna Veerya and mainly of Kapha-Vaata Shaamaka properties.

Katu Rasa is dominated with Vaayu and Agni Mahaabhuta. It is Deepana, Paachana, Shodhana, Krimihara, Kanduhara, Shwayathuhara, Kledahara, Malahara, Vrana Avasaadaka and Kapha Shaamaka.[7]

Tikta Rasa is dominated with Vaayu and Aakaasha Mahaabhuta. It is Deepana, Shodhana, Kanduhara and Puyashoshanakara[8]. It induces cleanness, dryness and keenness. With Krimighna and Puyashoshanakara properties it will help to remove

ear debris, discharge and reduces itching.

With the properties of *Katu and Tikta Rasa, it will encounter Vaata and Kapha Dosha. Due to Sraava, healing process hampered in Vrana. Katu and Tikta Rasa contain Shodhana property which can help to open channels and clean the wound ultimately promoting healing process.*

Madhukadi Taila & Rasnadi Guggulu are having Ruksha, Laghu, Tikshna Guna. Ruksha Guna is having Shoshana Shakti which will absorb the discharge in auditory canal and encountes the Kapha Dosha. Laghu Guna having Lekhana and Ropana properties which will help in healing of wound. Tikshna Guna is Shighrakaari which starts its action very quickly and will encounter Vaata and Kapha Dosha.

Ushna Veerya is another property of Madhukadi Taila & Rasnadi Guggulu. Due to Ushna Veerya it will encounter Vaata Dosha and Gati of Vaata gets normalized (Anulomana). This way it will work on functional mechanism. Another benefit of Ushna Veerya is that it enhances local as well as general metabolism. Because of this, it will correct Dhaatuposhana Krama and ultimately it will leads to production of Uttama Twaka and Maamsa Dhaatu.

Conclusions:

- Main etiological factor for CSOM is recurrent URTI (*Pratishayaya) which justify the fact that the Pratishayaya is an important cause in manifestation of Karnasraava.*
- CSOM (safe type) can be correlated with *Vaata Kaphaja Karnasraava as the discharge was found mucoid or mucopurulent in nature.*
- For *Karnapichu, taila should be prepared to achieve the stage of Kharapaaka. If there is water content in taila then it will provide a favourable condition for the growth of fungus.*
- CSOM has no relation with particular occupation but children of school going age are more prone to this disease in present study.
- Present study shows lower middle class people are mostly affected in this disease.
- Maximum no. of patients had chronicity above one year.
- *Pathyapathya should be followed properly especially in sheeta ahara- vihara for effective management.*
- Regular cleaning & dry mopping of ear canal is necessary before every application for better efficacy.
- The principles of *Dushtavrana Chikitsaa can be adopted in treatment of Karnasraava.*
- Local treatment is more effective than systemic administration as it tackles the disease effectively.

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Pharmacological Study

A Comprehensive Study of *Arjuna* (*Terminalia arjuna* (Roxb.) Wight & Arn.) and *Lodhra* (*Symplocos racemosa* (Roxb.) W.S.R. to *Vyanga*

*Dr.Urvashi Sharma, **Dr. A. Ramamurthy, ***Dr Bidhan Mahajon

Abstract:

Every human being wants to stand at top of good looks, so that now a day's importance of beauty is gradually increasing. People are much conscious for their personality and they are using various cosmetics for treatment purpose as well as a part of daily routine. Numbers of diseases are responsible for ruining the natural beauty of a human being, *Vyanga* is one of them. It comprises all types of dark spot occurring on face. There are assortments of factors which are responsible for mounting this disease. It may be physical, nutritional and endocrinal hyper melanosis. On this background present study was undertaken to evaluate the efficacy of *Arjuna* and *Lodhra* in treatment of *vyanga* i.e. physical, nutritional, and endocrinal hyper melanosis. In this study bark of *Arjuna* and *Lodhra* were used in the form of *Lepa* for external application and as *Churna* for internal use. Total 30 patients were selected based on fixed inclusion and exclusion criteria. They were divided in two groups; Group A: 15 Volunteers of this group were managed by external *Lepa* of *Arjuna* and *Lodhra*. Group B: 15 Volunteers of this group were managed by external *Lepa* as well as orally powder of *Arjuna* and *Lodhra*. Results of the study showed the *Lepa* with internal administration *churna* of the drugs was better effective than only external application of *lepa*.

Key words: *Vynga, Lepa, Churna.*

सारांश–

वर्तमान युग में आयुर्वेद संहिताओं में वर्णित व्यङ्ग नामक व्याधि सौंदर्य को अत्यधिक प्रभावित कर रही है। व्यङ्ग की चिकित्सा के लिए सुरक्षित और प्रभावकारी औषध की खोज के लिए आयुर्वेदिक संहिताओं व निघण्टुओं में वर्णित अर्जुन और लोध्र का चयन किया गया। प्रस्तुत चिकित्सीय अध्ययन 30 रोगियों के दो समूहों में किया गया। अर्जुन और लोध्र औषध का चूर्ण के रूप में आभ्यन्तर व लेप के रूप में स्थानित प्रयोग किया गया। अध्ययन के दौरान यह पाया गया कि अर्जुन और लौध्र औषध के रूप में व्यंग की चिकित्सा में प्रभावकारी व सुरक्षित है। अध्ययन से अत्यन्त लाभकारी व प्रोत्साहित करने वाले परिणाम प्राप्त हुए।

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Pharmacological Study

A Comprehensive Study of *Arjuna* (*Terminalia arjuna* (Roxb.) Wight & Arn.) and *Lodhra* (*Symplocos racemosa* (Roxb.) W.S.R. to *Vyanga*

Dr. Urvashi Sharma, Dr. A. Ramamurthy, Dr Bidhan Mahajon

Introduction:

In the present scenario the health and beauty are the two sides of the single coin as most of the people are very much conscious about their health as well as beauty. The face is a paramount important part of the body. It reflects the personality of a person. It is said that ***"Face is the index of mind"***. It reflects all the expressions e.g. joy, anger, sorrow, excitation etc[1]. This most important and stunning facet of human body is affected by certain anomalies, *Vyanga* is one of them. *Vyanga* means any dark spot on the face[2]. It damages the cosmetic value of the face. Among the ancient scholars, *Acharya Sushruta* was the first and foremost to mention a whole group of such skin diseases which have an adverse effect on the appearance and personality of an individual[3]. He named these maladies as *Kshudra Roga*. Almost all *Acharyas* have considered *Vyanga* as a *Khsudra Roga* but *Acharya Charaka* has mentioned *Vyanga* as *Raktadhatugata Vikara*. *Vyanga* is a condition of localized hypermelanosis which affects only face[4]. The word *Vyanga* has comprehensive meaning; it indicates physical, nutritional and endocrinal hyper melanosis. Consequently, the cosmetic industry is booming with products. But utmost these procedures are complicated, time consuming, require costly expertise help[5]. Though most of these remedies and procedures are claiming herbal origin but in reality these are combinations of different chemical adulterants which may have hazardous effects on skin[6]. Numbers of Ayurveda medicinal plants are used by traditional practitioners in various skin disorders but maximum of these are suffering from lack of scientific validation, like as *Arjuna* and *Lodhra*. Both of these drugs are well known plants in Ayurveda. These are traditionally used in skin disorders since long time and widely used in skin care products by the various pharmaceutical companies. *Arjuna* (*Terminalia arjuna (Roxb.) Wight & Arn)* a very old remedy for heart diseases, wounds, ulcers, acne vulgaris. It is also a well known tonic, astringent, antioxidant and anti-inflammatory agent. Another drug *Lodhra* (*Symplocos racemosa Roxb*) is also very well known Plant in Ayurveda. It is used in various diseases like diarrhoea, dysentry, oedema, eye diseases, inflammation spongy gums and leprosy. It has various properties like astringent, purgative, digestive, blood purifier and appetizer[7-10]. Their *Vyanganashaka* effect has been mentioned in various texts of Ayurveda. However, no work has been done regarding their *Vyangahar* potential. On this background present study was undertaken to evaluate the clinical efficacy of *Arjuna* and *Lodhra* in treatment of *vyanga*.

Aims and Objectives:

- To evaluate the clinical efficacy of *Arjuna* (*Terminalia arjuna (Roxb.) Wight & Arn)* and *Lodhra (Symplocos racemosa Roxb*) in the condition of *vyanga*.
- To compare the efficacy of external *lepa* with external *lepa* and orally *churna* of drugs *Arjuna* and *Lodhra*.
- To find out an economic and effective drug therapy for this disease condition.

Materials and Methods:

Selection of Patients

For the present study, the volunteers fulfilling the clinical criteria for diagnosis of *Vyanga* were randomly selected irrespective of their age, sex, religion, occupation etc. from the OPD and IPD section of *Dravya Guna* department of *National Institute of Ayurveda Jaipur*.

Inclusion Criteria

- Volunteers willing to participate in the trial.
- Males and females above 20 and bellow 50 years of age.

Exclusion Criteria

- Males and females below 20 and above 50 years of age.
- With present or past history of any skin disease i.e. psoriasis, atopic dermatitis etc.
- Extremely fair and dark complexions.
- Any fungal or bacterial infections or under medication with antibiotics or antifungal.
- Pregnant and lactating women.
- Immunodeficiency state.
- History of hypersensitivity.
- Viral infections like Herpes.
- Autoimmune skin disorders.
- Patient Suffering from Constipation(internal drug administration)

Discontinuation Criteria:

- Any sort of allergy caused by drug.
- Unable to follow the trial schedule.

Diagnostic Criteria:

All the volunteers were diagnosed and assessed thoroughly on the basis of *Ayurvedic* classical signs and symptoms of *Vyanga*. They were examined on the basis of specially prepared Performa and a detailed history was taken.

Plan of Study

Total 30 Volunteers were registered. They were randomly distributed in two groups-

- **Group A:** 15 Volunteers of this group were managed by external *lepa* of *Arjuna* and *Lodhra*.
- **Group B:** 15 Volunteers of this group were managed by external *lepa* as well as orally powder of *Arjuna* and *Lodhra*.

Duration of trial: 30 days.

Dose: *Churna* (powder)-1.5gm (twice daily) with lukewarm water

Laboratorial Investigations: Hb%, TLC, DLC, ESR

Others Assessment: Photographs of volunteers before treatment and after treatment

Clinical Assessment: (Criteria for Assessment)

During the trial the patients were assessed on the following parameters -

General Assessment

Various demographic parameters viz. Age, Marital status, Religion, Socio-economic status, Education etc. along with specific features of *dasha vidha pariksha* viz. *prakrti, sattva, Ahara shakti* etc were analyzed in the present trial.

Subjective Assessment:

The improvement by the therapy was assessed on the basis of classical signs and symptoms. All the features were assigned score depending upon their severity to assess the effect of the drugs objectively. The detail of which is shown below.

1. *Shyavata* (Darkening of the skin)

Stages	Score
Normal	0
Mild	1
Moderate	2
Severe	3

2. *Parush Sparsha*

Stages	Score
Normal	0
Mild	1
Moderate	2
Severe	3

3. *Tamra Nila*

Stages	Score
Normal	0
Mild	1
Moderate	2
Severe	3

4. *Sausha / Chimchimahat*

Stages	Score
Normal	0
Mild	1
Moderate	2
Severe	3

5. *Kandu (Itching)*

Stages	Score
No itching	0
Mild (Occasional itching but does not disturb routine activity)	1
Moderate (Frequent itching disturbs routine activity but doesn't disturb sleep)	2
Severe (Frequent itching that disturbs routine activity as well as sleep)	3

6. Dry Skin (*Rukshata / Kharata*)

Stages	Score
Normal	0
Mild Dryness (Not seen but felt by touch)	1
Moderate Dryness (Stretching of the skin that person feels)	2
Severe Dryness- Visible dryness (chapping & hardness of the skin)	3

7. Oily Skin (*Snigdhata*)

Stages	Score
Normal	0
Mild Oiliness (Not seen with naked eye Oiliness feels by touch, no need to wash face frequently (Only 1-2 times a day)	1
Moderate oiliness (Oiliness is visible on skin) Need to wash face frequently (3-4 times a day)	2
Severe Oiliness (Excessive Oiliness) Formation of Acne Need to wash face more frequently (>4 times a day)	3

8. Size

Stages	Score
0-2 cm	1
2.1-4 cm	2
4.1-6 cm	3
> 6 cm	4

(When lesions or patches are multiple the size of the largest lesion is taken into consideration.)

9. Colour

Stages	Score
Light Brown	1
Brown	2
Dark Brown	3
Black	4

Statistical Analysis

All the data was collected and statistically analyzed and presented by means of various parameters like mean, difference of mean, % of relief, S.D., S.E. by adopting paired 't' test p-values and significance of results was evaluated (by using Graphpad In stat-Version 3.10).

Result and Observation:

Table No. 1 Effect of Trial drug on Subjective Parameters in 15 patient of Group A

Sr. No.	Parameters	Mean Score			% Relief	SD (±)	SE (±)	t	p	Results
		BT	AT	Diff						
1	Shyavata	1.5	0.625	0.875	58.33	0.88	0.22	3.95	<.01	S
2	Parush Sparsh	2.1875	0.125	2.0625	94.28	0.85	0.21	9.66	<.001	HS
3	Tamranila	1.75	0.5625	1.1875	67.85	0.83	0.20	5.69	<.001	HS
4	Saush / Chimchimahat	0.0625	0	0.0625	100	0.25	0.0625	1	>.05	IS
5	Kandu	0	0	0	0	0	0	0	>.05	IS
6	Size	3.25	1	2.25	69.23	1	0.25	9	<.001	HS
7	Color	2.875	0.875	2	69.56	0.51	0.12	15.49	<.001	HS
8	Oily Skin	1.1875	0	1.1875	100	1.04	0.26	4.53	<.001	HS
9	Dry Skin	0.25	0.1875	0.0625	25	0.44	0.11	0.56	>.05	IS

Table No.2 Effect of Trial drug on Objective Parameters in 15 patient of Group A

Sr. No.	Parameters	Mean Score			% Relief	SD (±)	SE (±)	t	p	Results
		BT	AT	Diff						
1	Hemoglobin	11.68	12.15	-0.46	4.0	0.99	0.24	1.89	>.05	IS
2	RBC	3.88	4.1	-0.21	5.4	0.33	0.08	2.51	<.05	S
3	TLC	85.26	87.2	-1.93	2.27	4.65	1.16	1.66	>.05	IS
4	Neutrophil	57.81	59.5	-1.68	2.91	3.36	0.84	2.0	>.05	IS
5	Eosinophil	0	0.1875	-0.18	0	0.75	0.1875	1	>.05	IS
6	Basophile	0	0	0	0	0	0	0	>.05	IS
7	Monocyte	0.68	1.125	-0.43	63.64	1.26	0.31	1.38	>.05	IS
8	Lymphocyte	41.5	39.18	2.31	5.57	4.61	1.15	2.0	>.05	IS
9	E.S.R.	20.06	18.5	1.56	7.78	8.88	2.22	0.70	>.05	IS

Table No. 3 Effect of Trial drug on Subjective Parameters in 15 patient of Group B

Sr. No.	Parameters	Mean Score			% Relief	SD (±)	SE (±)	t	p	Results
		BT	AT	Diff						
1	Shyavata	1.56	0.3125	1.25	80	1.06	0.26	4.69	<.001	HS
2	Parush Sparsh	2.37	0.125	2.25	94.73	0.68	0.17	13.17	<.001	HS
3	Tamranila	1.75	0.5	1.25	71.42	1.06	0.26	4.69	<.001	HS
4	Saush / Chimchimahat	0	0	0	0	0	0	0	>.05	IS
5	Kandu	0.375	0	0.375	100	0.80	0.20	1.86	>.05	IS
6	Size	3.43	0.93	2.5	72.72	1.15	0.28	8.66	<.001	HS
7	Colour	2.68	0.625	2.0625	76.74	0.57	0.14	14.38	<.001	HS
8	Oily Skin	1.375	0	1.375	100	0.95	0.23	5.74	<.001	HS
9	Dry Skin	0.562	0.187	0.375	66.66	0.71	0.17	2.086	>.05	IS

Table No. 4 Effect of Trial drug on Objective Parameters in 15 patient of Group B

Sr. No.	Parameters	Mean Score			% Relief	SD (±)	SE (±)	t	p	Results
		BT	AT	Diff						
1	Hemoglobin	10.81	10.96	-0.09	0.86	0.89	0.22	0.41	>.05	IS
2	RBC	3.737	3.725	0.0125	0.33	0.23	0.05	0.21	>.05	IS
3	TLC	83.88	84.12	-0.24	0.29	5.86	1.46	0.16	>.05	IS
4	Neutrophil	56.93	58	-1.06	1.86	2.51	0.62	1.6	>.05	IS
5	Eosinophil	0	0.625	-0.0625	0	0.25	0.625	1	>.05	IS
6	Basophile	0	0.125	-0.125	0	0.34	0.08	1.46	>.05	IS
7	Monocyte	1.0625	0.875	0.1875	17.64	0.75	0.18	1	>.05	IS
8	Lymphocyte	42	41	1	2.38	2.55	0.63	1.56	>.05	IS
9	E.S.R.	23.81	21.75	2.06	8.66	8.17	2.04	1.00	>.05	IS

Effect of Trial Drug on Subjective Parameters

58.33% relief of ***Shyavata*** was observed in Group A, which was significant (p<0.001). Similarly 80% relief was observed in Group B, which was also significant at the level of p<0.001. On ***Parush sparsh*** Group A showed 94.2% relief which was highly significant (p<0.001) and in group B it was reduced to 94.73%. On ***Tamranila*** highly significant results were obtained in both groups. *Tamranila* is the feature of *Pitta* and *Rakta Prakopa*. Both drugs pacify *Pitta* and *Rakta* due to its *Kashaya Rasa* and *Ruksha Guna*. On ***Sausha*** 100% result was observed in Group A, Which was insignificant; the symptom *Saush / Chimchimahat* was not found in Group B. *Sausha / Chimchimahat* is the symptom of *Pitta* and *Rakta Prakopa*. Both the drugs were responsible to alleviate *Sausha / Chimchimahat* due to *Sheeta Veerya*. ***Kandu*** was not found in Group A. The

percentage of relief in Group B was found 100% which was insignificant (p<0.001). Both the drugs alleviated *Kandu* because of *Kashaya Rasa* and *Laghu Ruksha Guna.* In group A **Size of Lesion** was reduced by 69.23%, Group B showed 72.72% relief in size. Both of the results were statistically highly significant (p<0.001). May be *Kashaya Rasa* and *Rogashamakata* of the drugs were responsible for this. Statistically highly significant results were observed in both groups on **Colour of Lesion** as both drugs are *Kapha Pittashamak* and *Shyavata* and *Tamranila* is the basic feature of *Pitta*. The % of relief on **Dry skin** in group A was 25% and in group B 66.66%. All results were statistically insignificant. The 100% relief was observed on **Oily skin** which was highly significant in both groups. May be *kashya rasa* and *ruksha guna* of both drugs were responsible to removes extra oil.

Effect of Trial drug on Objective Parameter

In group A **Hemoglobin** percentage was increased by 4.01% and in group B it was increased by 0.86%, both data were statistically insignificant. In Group A **Total leucocytes count** was increased to 2.27%, in Group B it was increased to 0.29% which were statistically insignificant. **RBC count** increased by 5.46% in group A in Group B observed to decrease to 0.33%. **Neutrophil** count was increased by 2.91% in group A and Group B showed 1.86% increase. All results were statistically insignificant. Statistically insignificant results were observed on **Eosinophil** count. The results were insignificant in all groups on **Basophile** count. **Monocyte** was increased by 63.64% in group A but decreased in group B. Statistically insignificant results were observed on **Lymphocyte** count. **ESR** was decreased by 7.78% in group A and group B it was decreased by 8.68%.

Overall effect of therapy

Overall relief in group A (*Lepa*) was observed 64.91% and in Group B (*Lepa* and *Churna*) 73.58%. Hence the study indicates that external (*Lepa*) with internal administration (*Churna*) of drug performed better result than only external application of *lepa*. As *Vyanga* is the *Raktaj Vikara* hence *Lepa* with *churna* (internally) was more effective than compare to only *Lepa*.

Discussion

The Rasa of both drugs are *Kashaya. Vyanga* is occurring due to aggravation of *Vata Pitta. Pitta* is getting aggravated by anger and exertion they gets localized in the face and gives rise to a patch on the skin, which is painless, thin and blue-black in color. So *Kashaya Rasa* subdues the *Pitta* which is the main cause of the disease.

- Ø The *Guna* of Both drugs are *Laghu-Ruksha. Ruksha Guna* alleviates the *Snigdha Guna* of *Pitta*. Its break the etiology of *Vyanga* by subsiding *Pitta*.
- Ø Both drugs have *Sheeta Veerya* which is also beneficial persuade for skin.
- Ø Both drugs have *Katu Vipaka.* Though *Vipaka* is taken part in least role in the topical application as *Vipaka* has comes out after *Jatharagni Paka.*

***Churna* of Both drugs (internally)**

- o Both drugs are *Laghu* in *guna*. So they are *Srotoshodhaka*, easily digestible and *Agnidipaka.*
- o *Veerya* of both drugs are *Sheeta* which subsides *pitta. Sheeta virya* is also responsible for *prasadana, kledana* and *jivaniya* action. It promotes tissue firmness too.
- o According to *Ayurvedic* text *Arjuna* is *vishghna*, *varnaropak*, *raktadoshahar*, *shothhar* and *dahahara* agent. On the other hand *Lodhra* is also responsible for *utsadan, vishhar, raktadoshahar, shonitsthapan, varnarropak, varnashodhak* actions.
- o In modern aspect *Arjuna* has cooling, astringent, haemostatic, anti-inflammatory, and anti-oxidant effect. *Lodhra* has cooling and astringent property. So they both were useful for skin diseases externally as well as internally.

Hypothetical mode of Action (*Lepa*)

The probable mode of action of *Lepa* can be described in two steps as given Below.

	Lepa application
	Release of active principle
Pilosebaceous uptake	Entry at proper site in skin (Su. Su. 18/4)
	Absorption
	Pachan by Bhrajakagni (A.H. Su. 12/14Arundatta)
Cutaneous Biotransformation	New metabolites formation
	Pacification of Doshas
	Breaking down of the Pathogenesis

Conclusion:

- *Arjuna and Lodhra* resulted significant effect in the treatment of *vyanga* on skin.
- *Lepa* of *Arjuna* and *Lodhra* when used along with *Churna* of the same showed better result than the *lepa* alone.
- *Arjuna* and *Lodhra* also showed the reducing effects on scars, pimples, freckles and complexion.
- The volunteers with oily skin were more benefitted than the other types.
- Regulated doses of *Arjuna* and *Lodhra* did not any side effects. It is safe, economic, convenient and easily available.

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Pharmaceutical Study

Hepatoprotective Activity Of *'Yakritashula Vinashini Vatika'* Against Ccl_4 Induced Hepatotoxicity In Albino Rats

*Dr. Anita Mali, **Dr. P.Suresh, ***Dr.Sanjay Kumar, ****Dr. Rajesh Sharma

Abstract

Liver diseases are considered as fatal & life threatening. Efforts have been made to search for effective hepatoprotective agents. The aim is to evaluate the hepatoprotective activity of *Yakritashulavinashini-vatika*(*YSV*) against CCl_4 induced hepatotoxicity in albino rats.

Group I (Control) received 5% gum acacia orally for 28 days. *YSV* in the dose of 200 and 400 mg/kg bodyweight orally in Group III & IV. Silymarin100mg/kgas a standard drugwas givenin Group V and Prophylactic *YSV*200 mg/kg bodyweightin Group VI.CCl_4in dose of 1ml/kgbodyweightintra peritoneal 1:1 dilution with olive oil was administered for 7 consecutive days to the all groupsexcept group Iand group II acts asCCl_4 control

TheHepatoprotective effect of *YSV* was evaluated by the assessment of biochemical parameters such as SGOT, SGPT, ALP, Total Billirubin, Total Protein &histopathological studies of Liver.

Result : The Drug has showed prophylatic effect against CCl4 induced hepatotoxcity and also has definitive curative potential in the dose of400mg/kg body weightwhich is comparable to the standard drug

Key Words: Carbon tetrachloride, Hepatoprotective activity, Silymarin.

सारांश –

वर्तमान में विश्वस्तर पर यकृतविकार ज्वलंत एवं प्राणघातक समस्या है। प्रस्तुत शोध में आयुर्वेदिक फोर्मुलरी ऑफ़ इंडिया में वर्णित यकृत शूल विनाशिनी वटीका में यकृत संरक्षणीय प्रभाव का अध्ययन यकृत विषाक्तता किया गया। इस क्रम में अल्बिनो रेट्स के समूह संख्या–एक के अन्तर्गत गमअकेसिया 28 दिवस, समूह संख्या दो में कार्बनटेट्राक्लोराइड 1 एम.एल. प्रतिकि.ग्रा. शरीर भार का ऑलिव ऑयल में 1:1 विलयन, समूह संख्या तीन एवं चार में यकृत शूल विनाशिनी वटिका क्रमशः 200 एवं 400 मि.ग्रा. प्रतिकि.ग्रा. शरीरभार, समूह संख्या 5 में मानक औषध सिलिमेरिन 100 मि.ग्रा. प्रतिकि.ग्रा. शरीरभार तथा समूह संख्या 6 (प्रोफाइलेक्टिक) में यकृत शूल विनाशिनी वटिका का 200 मि.ग्रा. प्रतिकि.ग्रा. शरीर भार प्रयोग किया गया है। इस शोध के अन्तर्गत किये गये लिवर प्रोफाइल टेस्ट तथा हिस्टोपेथोलोजिकल अध्ययन में समूह संख्या 4 अत्यधिक प्रभाव पूर्णसिद्ध हुआ है।

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Pharmaceutical Study

Hepatoprotective Activity Of *'Yakritashula Vinashini Vatika'* Against Ccl_4 Induced Hepatotoxicity In Albino Rats

Dr. Anita Mali, Dr. P.Suresh, Dr. Sanjay Kumar, Dr. Rajesh Sharma

Introduction:

Starting from ancient period, medicinal plants play a vital role in the treatment of several diseases. In traditional systems of medicine many plants were used to cure the liver disorders. Medicinal plants possess valuable bioactive compounds that protects human from various complications.

YakritashulaVinashinivatika(YSV) is one of such herbo-mineral compound, whichis mentioned in *Bhaishajya ratnavali* in *Pleehayakritrogadhikar*.[1]

YSV mentioned in *Yakrit, Gulma, Pleehodarvyadhi* with the *anupana* of *karvellaka swarasa* at the dose of *badarsthipramana* i.e. near about 750 mg.

Table No. 1: Showing Ingredients of *Yakritashula vinashinivatika*:

S.No	Name	Origin	Latin Name	Part used	Proportion
1.	*NavasadaraSuddha*	Mineral	Ammonium chloride	-	1part
2.	*Saindhavalavana*	Mineral	Rock salt halite/ *Chloride of sodium*	-	2 part
3.	*Chitraka*	Herbal	*Plumbagozeylanica*	Rt.	10 part
4.	*Kokilaksha*	Herbal	*Asteracanthalongifolia*	Sd.	10 part
5.	*Rohitak*	Herbal	*Tacocomaundulata*	St.Bk.	10 part
6.	*Yavani*	Herbal	*Tachyspermumammi*	Ft.	10 part
7.	*Putikambu*(Cirabilva)	Herbal	*Holopteleaintegrifolia*	Lf.	Q.S.

Liver diseases are considered as fatal & life threatening. It creates a serious challenge to public health.According to the latest W.H.O. data published in April, 2011 death due to liver disease inIndia has reached 2.3% of total deaths. India stands 27thin the world. Modern medicines have little to offer for alleviation of hepatic disorders. There was no safe hepatoprotective drug available for the treatment of liver disorders[2]. With the knowledge of the above facts, an attempt is made to evaluate the hepatoprotective potential of *YSV*.

Aims and Objectives:

The existing drugs can cure most of the diseases. Still there is a never ending search for finding new drugs in the hope that it would yield drugs with lesser side effects and better therapeutic activity than the existing drugs. The present study involves evaluation of *YSV*for its hepatoprotective activities.

The objectives of the study are:

a) To compile the literature on *YSVavailable in various texts.*

b) To manufacture and to fix SOPs of the said formulation.

c) To evaluate Hepatoprotective potential of *YSV* by animal experimentation by inducing hepatotoxicity by giving CCl_4.

Material and Methods:

● ***Collection and identification of Raw drugs:***

The ingredients of *YSV* were procured from the pharmacy attached to NIA, Jaipur, & identified or authenticated by expert of the P.G. Department of *DravyaGuna*, NIA, Jaipur.

The drug *YSV* was prepared in lab of P.G.Department of *Rasashastra& Bhaishajya Kalpana*,as per the traditional procedure and there by fix the standard operating procedures.

● ***Processing & preparation of formulation:***

The collected material was shade dried and powdered using mixer grinder. Care was taken toavoid fungal contamination while drying and handling by wearing the gamma radiated gloves. The powder mixed was triturated for 4 hours by mixing *Putikambuswarasa* and dried. The process was repeated for 7 times, when the mass become homogenous the pills were prepared by hand moulding. Then the Material was weighed and stored in an air tight container.

Experimental animals:

HealthyWistar strain albino rats of either sex, weighing between 120-150 ghoused in polypropylene cages kept in the animal house of NIMS Institute of Pharmacy, NIMS University, Jaipur. They were maintained under standard husbandry conditions (temperature 23±2°C, relative humidity 55±10% and 12-hr light/ dark cycle) during experiments. Animals were allowed to take standard laboratory feed and water *ad libitum*. They were given a week's times to get acclimatized to the laboratory conditions. Initial body weight of each animal was recorded.

The research protocol was approved by Institutional animal ethics committee (IAEC) as per CPCSEA guidelines. (IEAC Clearance no- NU/NIP/ IAEC/12/001)

Experimental design for hepatoprotective activity

A total of 30 animals were taken and were divided into 6groups of 5 animals each (n=5 / group). Study was carried out for 28 days. **Group I**(normal control) received 5% Gum acacia orally for 28 days. **Group II** served as induction control,received dose of 1ml/kg bodyweightof CCl_4 diluted witholive oil[3] in 1:1 ratio for 7 day consecutively. **Group III** to **IV** received YSV 200 and 400 mg/kg body weight respectively and **Group V** silymarin 100 mg/kg body weight for 28 days by oral route. **Group VI**received YSV 200 mg / kg bodyweight as prophylactic. CCl_4in dose of 1ml/ kgbodyweightintraperitoneal 1:1 dilution with olive oil was administered for 7 consecutive days to the all groups except group I.

The animals were kept starved on the 29th day. On the next day, after recording their body weight and blood was collected by retro orbital puncture.The blood was allowed to clot, & then centrifuged at 3000 rpm for 20 min. Sera sample were collectedfor biochemical parameters like SGOT, SGPT, ALP, T. Bilirubin and T.Proteins.

The animals were sacrificed by using Diethyl ether and the abdomen was cut open to remove the liver.

Biochemical analysis

Liver pathophysiological enzymes such as SGOT, SGPT, Alkalinephosphatase, Total billirubin and Total Proteins were estimated by using commercially availablekits and as per the manufacturer's instruction.

Histopathological Studies

A portion of the liver was cut into two to three pieces approximately of 6mmsize and fixed in phosphate buffered10% formaldehyde solution. After embedding in paraffin wax, thin sections of 5µm thickness were cut and stained withhaematoxylin–eosin. The stained sections were made intopermanent slides and examined under high resolution microscope with photographicfacility and photomicrographs were taken.

Statistical analysis

The data were expressed as mean ± SEM. Results were analysed statistically by one-way analysis of variance (ANOVA) followed by Tukey Kramer multiple comparison test and & Graph Pad Instat statistical program. P- Value<0.05 was regarded as statistically significant.

indicated by the restoration of altered values of different parameters in hepatotoxic rats to near-normalcyat the dose of 400 mg / kg body weight of *YSV*and the results are quite comparable with the standard drug. The Drug also showed prophylatic efffect in the dose of 200mg body weight. when given before the induction with CCl_4

Histopathological observations of the liver tissues of various experimental groups further corroborated the biochemical findings observed in this study.

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Conceptual Study

Critical analysis of *Takra Dhara* in Diabetic Peripheral Neuropathy

*Dr. Suketha, **Dr. Laxmikant

Abstract:

Diabetic Peripheral Neuropathy (DPN) is one of the most troublesome micro vascular complication of Diabetes Mellitus and is clinically present in 30-50% of all Diabetic patients. Approximately, 50 percent of patients with Diabetics will eventually develop neuropathy and which is the major cause for lower limb amputation. To tackle this problem, an effective management protocol has to be planned in ayurveda to overcome the suffering. *Takradhara*, an advanced therapeutic procedure has greater affect in curing Diabetic peripheral neuropathy. Hence, it is very important for the *Ayurvedic* physicians to understand this procedural affect which is influencing mainly on the disease pathology, on involved doshas, itssymptoms and also it has restoration affect in Diabetic Peripheral neuropathy.

Key words: Diabetic Peripheral Neuropathy, *Takradhara,* Diabetes mellitus

सारांश–

डायबेटिक पेरिफेरलन्युरोपैथी, मधुमेह के एक तरह कि उपद्रव (कॉम्पलिकेशन) है। लगभग 30 से 50 प्रतिशत मधुमेह रोगियो मे ये उपद्रव दिखायी देता है। डायबेटिक पेरिफेरलन्युरोपैथी पैरयाम्पुटेशन का कारण भी बनता है। इस समस्या से बचने के लिये प्रभाव चिकित्सा करनी चाहिये। तक्रधारा नामक एड्वान्सड् पंचकर्म चिकित्सा, कोडयाबिटिक पेरिफेरलन्युरोपथि मे अच्छा प्रभाव है आयुर्वेदिक चिकित्सक होने के नाते ये जानना जरूरी है कि तक्रधारा के प्रभाव डायबेटिक पेरिफेरलन्युरोपैथी मे कैसे होता है, इसका प्रभाव व्याधि के दोष मे, सम्प्राप्ति मे, लक्षण मे और व्याधि पुनः उत्पन्न होना रोकने मे कैसे मदद करता है ये सब जानना जरूरी है। इस शोध पत्र मे तक्रधारा के ये सब कर्म के बारे मे तर्क किया गया है।

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Conceptual Study

Critical analysis of *Takra* Dhara in Diabetic Peripheral Neuropathy

Dr. Suketha, Dr. Laxmikant

Introduction:

Diabetic Peripheral Neuropathy (DPN) is one of the most troublesome micro vascular complication of Diabetes Mellitus. DPN is a Common disease, often severe but frequently unreported and inadequately treated. One in 6 Diabetic has neuropathy[1,2] is that approximately 50 percent of patients with Diabetics will eventually develop neuropathy and which is the major cause for lower limb amputation[3]. The prevalence of neuropathy is related to age, duration of Diabetes Mellitus and the quality of metabolic control. The Diabetic Control & Complication Trial study proved that a Glycated Haemoglobulin (HbA1c) reduction from 9 to 7% for a mean follow up of 6.5 years was able both to reduce the onset of Diabetic Peripheral Neuropathy (from 9.6% to 2.8%) and to slow its progression [4].Hence by the above explanation it was clear that, uncontrolled Diabetes mellitus, along with its chronicity play a major role in the manifestation of DPN.

In Ayurveda, direct nomenclature of DPN is not found. Regarding the manifestation of *Upadrava* (complications) in *Madhumeha* (Diabetes Mellitus) we need to analyze its progression of Samprapti. According to sushruthasamhita,upadravas are those which develop after onset of main disease and its depend on main disease[5]. Acc to Charaka samhita, it is mentioned while in the context of madhumeha, due to strong bondage between morbid doshas and dushyas, madhumeha attains *asadhya* stage, which in turn causes any upadrava.[6] The various *nidanas*, *doshadushyasammurchana* and further progression in sampraptiof *madhumeha*are similar to that of DPN.In general, the treatment protocol planned in the management of DPN should act on the pathological process of madhumeha, which ultimately cure its upadravas, followed by strict adhering to diet and regimens.

Takradhara, a type of *shirodhara* (continous pouring medicated liquid on the head) procedure where medicated Takra is used. Most of the recent Ayurvedic practioneres, various research works on DPN and as per keraliya chikitsa paddhatiit says that Takradhadhra has beneficial effect in managing the Madhumeha and its complication like DPN7. Hence, it is very important for the Ayurvedic physicians to understand this procedural affect, its influence on disease pathology, on involved doshas, itssymptoms and also its restorationin DPN.

Method of Preparation of Medicated *Takra*:

120gms (3 pala) of kwathachurna of amalaki was boiled in 5 litres (10 kudava) of water till it reduced to 1 litre (2 kudava). Then it was filtered and collected in a stainless steel vessel. This 1 litre (2 kudava) of kwatha was used along with the Takra.[8]1500 ml (2 Prastha) of milk diluted with 6000ml (8 Prastha) of water, boiled and reduced to original quantity of milk i.e. 1500ml (2 prastha). It was allowed to cool on its own. After cooling, little quantity of curd was added and kept overnight to get fermented. Next day morning fermented curd was churned well, upper cream part is removed. At this stage, Takra was ready to use. This Takra was added to amalaki Kwatha[9]

Procedure of *Takra Dhara*:

Materials Used for *Takradhara*:

Dharapatra, Dharatable,Dharastand,cotton , gauge, Amalaki and Takra.

***Poorva Karma* (Preoperative procedure)**

All patients were subjected to dhara procedure in the morning hours. Patients were made to lie down on the dhara table in supine position. The eyes were covered with cotton pad and lightly bandaged to prevent the drugs entering the eyes during the procedure. Takra was taken in a steel vessel and made Luke warm.

***Pradhana Karma* (Operative procedures)**

The Takra was poured in dharapatra and then it was allowed to flow on the fore head of the patients, in medium pace (i.e neither very fast nor very slow rate) from a height of 4 angulas. When the Takra started pouring, then the vessel was moved in oscillating fashion in the stream of the flow. The Takra was collected in separate vessel, reheated and used for dhara. The procedure was repeated for 45 minutes counting it as one sitting.

***Pashchat Karma* (Post-operative procedure)**

After completion of procedure, eye bandage was removed and patients were allowed to take rest for few seconds. Takra adhered on the forehead and part of head was wiped off with a clean napkin. The Rasnachoorna was rubbed over the anterior fontanel. Then patients were asked to take rest for about 10 minutes. The patients were asked to take Luke warm water bath after one hour.

DISCUSSION:

Madhumeha is a Vata pradhanavyadhi (disease). There are two set of samprapti(pathology) manifests in madhumeha.Theyare Avarana and dhatukshaya.

Avaranasamprapti: Due to avarana of *Pitta* and *Kapha dosha* on *Vata*, exhibit the symptoms of Avarana in madhumeha.[10]Due to further progression in process of pathology ,disease and its pathology becomes stronger and reaches upadravaavastha (DPN). Group of signs and symptoms manifested in DPN like *Karapadadaha* (burning sensation in palms and soles), *harsha* (tingling sensation), supti (numbness), gourava (heaviness in limbs) etc are attributed to the pittavrata and kaphavritavata symptoms which are the earliest manifested symptoms of DPN

Dhatukshayajasamprapti[11]: This samprapti manifests in the later stage of the disease. Here, the samprapti is due to excessively vitiated Vata and kshaya (diminished) of *dhatus*. This Aggravated Vata causes elimination of *Dhatus* through the passage of Basti and results in *Dhatukshaya* and causes manifestation of symptoms such as ***Balahani, Mamsashosha, Angaglani, Stambha, Kampa, Dourbalya*** and all other symptoms of Dhatukshaya which are the *upadravaavastha* of madhumeha. These symptoms are attributed to Diabetic Peripheral Neuropathy.

Henceby analyzing all these, it was clear that Vata is the main dosha involved in the pathology of DPN along with Pitta and Kapha. In the later stages of samprapti, due to severely aggravated Vata,dhatukshaya also worsens the condition.

DPN is a *vatapradhanatridoshajaavasta*. As per *Charaka Samhita*, in all type of *Vatavyadi, Dhara* or shirosekais indicated.[12] Since Vata is a predominant dosha involved in Diabetic Peripheral Neuropathy,dhara is preferred in this condition to combat aggregated Vata dosha. *Amalakichurna* selected in the procedure of *Takradhara* is to alleviate the *pitta* involved in the disease process, which also acts as *Vata Kapha shamaka*, as *amalaki* possesses *tridoshashamaka* action.

There is a reference available in *ashtangasangraha* stating that, in *Pittavrita Vata* condition dravasweda is indicated.[11]As per *Charaka Samhita* also, *antargata pitta* is to be treated with dravasweda, seka.[13]Hence dhara has scope in pittavrita Vata condition.

Takra used in the procedure of Dhara helps in shamana of kapha due to its kashayarasa, laghuguna and ushnavirya.

Here, the dravyas namely amalaki will exert pittahara action, Takra exerts Kapha hara action and procedure of dhara acts on Vata. Hence, the total effect of takradhara is tridoshashamana, it has role in the management of DPN.

Procedural effect of Takradhara

Luke warm liquid usually employed in dhara stimulates efferent blood vessels and causes vasodilatation at periphery. Prolonged and continuous pressure due to trickling of medicated liquid on forehead in dhara therapy cause tranquility of mind and relieves tension and strain. It improves circulation in head and relaxes muscles and nerve endings. Takradhara has balancing effect on deepest recesses of brain.[14]

It stimulates endocrine system, pituitary gland, and neurotransmitters. It is also said to enhance blood circulation to brain.[15]Excessive secretion of cortisol produced by stress causes rise in blood levels of glucose[16] that may be reduced due to relaxation effect of Takradhara.[15]

In total, the cumulative effect of all these cause peripheral vasodilatation, improves

circulation, relaxes local muscles and stimulates the nerve endings[17].

CONCLUSION:

Diabetic Peripheral neuropathy is a complex multifactorial disorder with varied clinical features.In Ayurveda, direct nomenclature of DPN is not found. Regarding the manifestation of Upadrava (complications) in Madhumeha we need to analyse its progression of Samprapti and based on that affective management has to beplanned. Therapeutic procedure Takradhara has very affective role in the management of DPN at the level of samprapti,it has affect in resolving the acute symptoms and it's also useful in controlling the blood sugar level followed by strictly adhering to pathya(wholesome diet) and avoidance of apathy (unwholesome diet).

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Conceptual Study

Hypothyroidism And Its Management According To *Ayurveda*

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Abstract:

Hypothyroidism is major endocrinal disorder in present era. It has been noticed that irregular life style plays the major role for insufficient production of thyroid hormonesviztetraiodothyroxine (T_4) and triiodothyronine (T_3). The principle function of thyroxin is to act as a catalyst of nature for the maintenance of the oxidative metabolism in most tissues. In *Ayurveda*, the functions of thyroid glands are similar to functions of *Agni*. Sign and symptoms of hypothyroidism are closely related to *Galaganda*mentioned in *Samhita*. *Acharya* have explained various regimens in *Dincharya* and *Ritucharyaprakarana* which helps in proper functioning and maintenance of *Agni*. Prevention of the disease through some principles like *Deepana, Pachana, Lekhana* and *Samanyamvridhikaranam* etc. and various single or combination of herbs mentioned in Samhita are used to manage the hypothyroidism like *Guggulu, Pippali, Ashwagandha, Jalakumbhi* etc. In management program *Yoga* is also helpful to reduce the symptoms of hypothyroidism.

Key words: thyroid, hypothyroidism, *Galaganda*, *Yoga* and herbs.

सारांश–

वर्तमान समय में हाइपोथायराइडिज्म एक प्रमुख अन्तस्रावी ग्रंथी विकार है। प्रायः यह देखा गया है कि अनियमित दिनचर्या थाइरॉयड हार्मोन के अपर्याप्त निर्माण में एक प्रमुख कारण है। अधिकांश ऊत्तकों में आक्सीकरण उपापचय के नियंत्रण में थायरॉक्सीन हार्मोन उत्प्रेरक के रूप में कार्य करता है। आयुर्वेद मतानुसार थायरॉयड ग्रंथी के कर्म का समन्वय अग्नि के कर्म से किया गया है। हाइपोथायराइडिज्म के लक्षण संहिताओं में वर्णित गलगण्ड रोग से मिलते हैं। आचार्यों द्वारा दिन चर्या एवं ऋतुचर्या प्रकरण में वर्णित उपाय अग्नि के नियंत्रण एवं कार्यों में सहायता करते हैं।

रोग का बचाव कुछ सिद्धान्त जैसे दीपन, पाचन, लेखन, सामान्य वृद्धि कारणम सिद्धान्त एवं संहिता में वर्णित एकल द्रव्य व संयुक्त द्रव्य जैसे गुग्गुलु, पिप्पली, अश्वगंधा, जलकुम्भी आदि द्रव्य हाइपोथायराइडिज्म रोग को नियंत्रण करते हेतु प्रयुक्त किये जाते हैं। इसके अलावा योग उपचार भी हाइपोथायराइडिज्म के लक्षणों को कम करने में सहायक है।

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Conceptual Study

Hypothyroidism And Its Management According To *Ayurveda*

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Introduction:

Metabolism:It is a series of complex processes by which the human body converts food, water, and oxygen into tissue, energy and waste products. It is a continuous process and goes on in every cell of the body. The constructive chemical and physical process by which food materials are adapted for the use of the body is known as *anabolism*; and the destructive process by which energy is produced with the breaking down of tissues into waste products is called *catabolism*. The two processes together are called metabolism.[1]

Basal Metabolic Rate: it is the rate at which energy is consumed when a person is at complete rest. When a person is placed in a state of complete rest, the metabolic rate can be measured by measuring the amounts of oxygen and carbon dioxide exchanged during breathing under certain standard conditions. The **BMR** (Basal Metabolic Rate) is an index of a person's health.

Endocrine system: The endocrine system produces hormones, which are chemical signals sent out, or secreted, through the bloodstream. Hormones help the body regulate processes, such as appetite, breathing, growth, fluid balance, feminization and virilization, and weight control. The endocrine system consists of several glands, including the pituitary gland and hypothalamus in the brain, adrenal glands in the kidneys, and thyroid in the neck, as well as the pancreas, ovaries and testes. Most common endocrine disorders are related to improper functioning of the pancreas and the pituitary, thyroid and adrenal glands.

Thyroid gland: The Thyroid is a small butterfly shaped gland in the front of the neck. Its weight about one ounce, yet it is one of the most important endocrine glands in the body. Its major function is to produce hormones which are responsible for metabolism in the body.[2] The thyroid gland is extremely sensitive, and easily responds to stress and stimuli. The rate of metabolism depends on how much hormone Thyroxin is produced.

Disorders of the Thyroid Gland:

1. **Hyperthyroidism or thyrotoxicosis**: in which the gland secretes excess of hormones. This condition is more common in women than in men whose age ranges from 30 to 50 years. Thyrotoxic individuals become tremulous, irritable, anxious and even hysterical. Because the metabolism is raised, they experience rapid heart rate and palpitation, rapid shallow respiration. Frequent bowel motions and diarrhoea, Flushing, heat intolerance, sweating, menstrual disturbance and sometimes bulging of the eyes. Such people suffer the paradoxical situation in which they feel fatigue and lack of energy and yet are compelled to move about, talk and do things. They are constantly fidgeting and the slightest remark may set off an inappropriately angry response.

2. Hypothyroidism: Hypothyroidism results from inadequate production of thyroid hormone. Any structural or functional defects of thyroid gland that significantly impairs its output of hormones will lead to the hypo metabolic state of hypothyroidism. The thyroid gland is located in the neck and it produces two major hormones: T4 or thyroxine and T3 or triiodothyronine. Both of these hormones are involved in a number of metabolic processes although T3 is the more active of the two.The thyroid produces more T4 than T3 (eleven times more). However, once released from the gland, the body converts some T4 into more T3.The production and secretion of the thyroid hormones are controlled by another hormone known as TSH or thyroid-stimulating hormone. TSH is released from the pituitary gland, and is under the control of yet another hormone.TRH or thyrotropin-releasing hormone is released from the hypothalamus to stimulate the pituitary gland into releasing TSH. Once released, TSH then further stimulates the thyroid to release T3 and T4.

All of the processes make a feedback mechanism that controls the levels of the thyroid hormones.When the plasma levels of T3 and T4 falls,

the feedback mechanism triggers the release of TRH in the hypothalamus and, by extension, TSH in the pituitary gland. However, when the levels of thyroid hormones rise, the same mechanism reduces the secretion of TSH and TRH in order to reduce the syntheses of T3 and T4.[3]

Types of hypothyroidism:

Primary hypothyroidism is characterized by low levels of T3 and T4 even when TSH levels are normal. It is caused by damage to the thyroid gland and accounts for most cases of hypothyroidism.

Secondary hypothyroidism on the other hand, is caused by low production of TSH in the pituitary gland. Since there is not enough TSH to stimulate the thyroid, the production of thyroid hormones remains low.

Tertiary hypothyroidism happens when the hypothalamus does not produce TRH insufficient quantities. This means that the pituitary is not well stimulated to releaseTSH. Tertiary hypothyroidism is the least commonof the 3 types of hypothyroidism.

Causes of Hypothyroidism:

- Hashimoto's disease - is a chronic autoimmune disease that causes the thyroid to become inflamed and unable to produce enough thyroid hormones.
- Surgical removal of the thyroid gland
- Thyroiditis during and after pregnancy
- Radiation therapy for head and neck disease
- Certain medications such as sulfonamides, lithium, amiodarone, can interfere with the thyroid's ability to produce hormones
- Pituitary gland problems

Symptoms of Hypothyroidism:

Symptoms of hypothyroidism can be very subtle and are notorious for their nonspecific nature and for the way in which they mimic the symptoms of other diseases. People often believe their symptoms are due to stress, depression, or "getting older," or may frequently mistake them for other conditions such as menopause, arthritis, fibromylgia, depression or chronic fatigue syndrome. Because of this, hypothyroidism can go undiagnosed, sometimes for many years. Symptoms appear in almost every organ system of the body and vary from mild to severe and from person to person. Some common symptoms of hypothyroidism are:

- Fatigue, less energy or trouble awakening in the morning, need for more sleep and tendency to fall asleep during the day.
- Moderate weight gain or the inability to lose weight.
- Dry, itchy skin, dry mucous membranes.
- Puffy face or around the eyes.
- Cold intolerance.
- Joint and muscle pain.
- Constipation.
- Dry, thinning, coarse hair or loss of outer edge of eyebrows.
- Decreased sweating.
- Heavy or irregular or more painful menstrual periods and impaired fertility.
- Depression and irritability.
- Slow or irregular heart rate.
- Slow Achilles reflex and edema of feet.
- Slow movement, slow or fuzzy thinking, and poor memory.
- Slow speech, hoarse voice, and enlarged neck.
- Low body temperature.
- Yellowish or pale skin and dull facial expression.

Pediatric

- Short stature
- Mental retardation
- Short neck
- Delayed development

Severity

- Cardiovascular & psychiatric
- Myxedema

Other symptoms can include premature or exaggerated symptoms of menopause or post Partum symptoms, low sex drive, eye problems such as dryness, sensitivity to light, difficulty swallowing, hearing loss, more frequent and prolonged infections, shortness of breath, tightness in the chest, light headedness, dizziness, edema of various parts of the body, headaches, trigger finger, limited joint mobility and carpal tunnel syndrome.[4]

Galaganda:

There is no direct mention of thyroid gland in *Ayurveda*. But a disease by the name *Galaganda* is mentioned in *Samhita Grantha*. The earliest description of neck swelling is found in *Atharvaveda* by the name *Apachi*. *Charaka* first described about the disease under the 20 varieties of *Sleshma Vikara*.[5] *Sushruta* has described that out of seven layers of the skin, the sixth layer *Rohini is Galaganda*[6] *Rogadhistana*. In *Nidanasthana* he described *Galaganda* as two encapsulated small or big swellings in the anterior angle of the neck, which hang like scrotum,[7] whereas *Charaka* mentioned *Galaganda* as solitary swelling.[8]

Bhela described that *Shleepda* and *Galaganda* are more common in *Prachyadesa* (eastern part) of the country, and the persons consuming predominantly fish are liable to develop *Galaganda*.[9] *Haritasamhitakara* described the role of *Dustambu* and *Krimidosha* in the precipitation of *Galaganda*.[10] *Kashyapasamhitakara* added that any part of the country which is cold, damp, with densely grown long trees, water stagnation and heavy rains may be prone for the development of *Galaganda*.[11]

From the above descriptions *Galaganda* can be correlated with goiter or some tumour pathology, where thyroid functions may or may not be affected. But hypothyroidism is not just a localized disease. It has many symptoms related to many systems of the body. So it is better not to restrict hypothyroidism with *Galaganda*.

Management of Hypothyroidism:

"Vikaranamakusalonajihriyatkadachana Nahisarvavikaranamnamotoastidhrivasthitih".
(Ch.Su.18/44)

Ayurveda doesn't emphasize the exact nomenclature of the diseases; rather it insists on diagnosis of the constitutional status of the disease as mentioned in *Charaka*.[12]

Based on Ayurvedic principles, the following are the main causes for hypothyroidism.

1. Genetical and hereditary defects come under *Adibala Pravritta Vyadhi*,[13] so no treatment is suggested;
2. Congenital defects come under *Janmabala Pravritta Vyadhis*[14] (the disease present from birth itself, i.e. congenital defects). Thyroid gland agenesis, dysgenesis, ectopic thyroid gland come under this category;
3. Iodine deficiency is the main common cause for hypothyroidism. So *'Sarvadhasarvabhavana-msamanyamvriddhikaranam'*[15] applies here;
4. Auto immunity is another common cause, so immuno modulatory drugs are recommended here;
5. Side-effects of surgery and radiation: *Kasta Sadhya* (difficult to treat);
6. For transient hypothyroidism no specific treatment is required;
7. If there is functional loss of thyroid tissue, or functional defects, thyroid stimulatory drugs are beneficial.

Selection of drugs acting at various levels:

- At Hypo-thalamo pituitary level: anti-stress drugs, *Medhyarasayana* drugs, *Nasyakarma* may be beneficial;
- At thyroid gland level: thyroid stimulatory drugs are recommended here;
- At metabolism level: *Deepana, Pacahana, Lekhana*[16] drugs which pep-up body metabolism is recommended;
- Immuno modulatory drugs for autoimmune related hypothyroidism.

Herbs use in Hypothyroidism:

***Guggulu*:**

The recent research work done by Dr. Tripathi and others. Animal studies have revealed that *Guggulu* supports healthy thyroid function,

mostly by increasing the conversion of less active Thyroxin (T4) to more active Triiodotyronine (T3) through increasing thyroid proteolytic activity and the uptake of iodine into thyroxin, and without increasing the production of Thyroid Stimulating Hormone.

The extract of gum *Guggulu* is known as guggulipid. It is also a long-standing traditional remedy used in the Indian *Ayurveda* system of medicine. The chief active ingredients in guggulipid belong to a class of phytochemicals known as guggulsterones.

Guggulsterones have been proven to improve thyroid function. In a 1984 study published in the journal, *Planta Medica*, a group of researchers detailed the response when they administered Z-guggulsterone (1 mg/100 g of body weight) to albino rats.

One of the benefits recorded after administering the guggulsterone was increased uptake of iodine by the thyroid.

Another study published in the journal, Anticancer Research, in 2008 also established that guggulsterones can prevent and suppress cancer cells.[17]

Ashwagandha:

Used primarily as an adaptogens, the *Aswagandha* low thyroid herb helps:

- To relieve one of the most debilitating symptoms of hypothyroidism which includes frequent fatigue and the inability to concentrate.
- It is known to lower blood pressure**.**
- Reduce the inflammation of the thyroid and boost the immune system.

This is an herb with antioxidant properties that is popularly believed to directly affect the thyroid by producing just the right amount of hormones. Aside from providing a hormonal balance, *Ashwagandha* is known to help the body fight stress by improving the immune system and has also been found to have anti-inflammatory properties. A study conducted in 2011 found that *Ashwagandha* extract is able to stimulate thyroidal activity and enhance antiperoxidation of hepatic tissue.[18]

Jalakumbhi:

Free radical stress leads to tissue injury and progression of disease conditions such as arthritis, diabetes, hepatic injury, aging and ischemia, reperfusion injury of many tissues, gastritis, tumor promotion, neurodegenerative diseases and carcinogenesis.

*Pistiastratiotes*leaves extract (PSLE) functions as an antioxidant to scavenge free radicals and reduces free radical induced cell injury (In vitro Evaluation of Free Radical Scavenging Activity of *Pistiastratiotes* Meghajha, N. ganesh and Vershasharma).

Brahmi:

The Bacopa is a neurological tonic containing neuroprotective properties that:

- Enhance memory
- Mental concentration, thus alleviating some of the symptoms of hypothyroidism such as inability for mental focus
- Inflammation and promotes anti-oxidation process in the body.

Researchers confirm the potency of Bacopa as a thyroid stimulating drug to fight hypothyroidism. It has been found to regulate thyroid hormone concentrations by as much as 41% without adverse reactions.[19]

Yashtimadhu:

The *Yashtimadhu* (licorice) is known to:

- Help maintain the balance in the production of thyroid hormones and the function of other glands.
- It contains triterpenoidglycyrrhetinic acid which helps prevent the development of invasive thyroid cancer cells.

This herb is important in maintaining a balance among glands so that thyroid patients who often suffer from fatigue have improved energy. Moreover in 2011, the Instituteof Biosciences and Technology in Texas isolated synthetically derived constituents of triterpenoidglycyrrhetinic acid, a major component of licorice and found it to inhibit

the growth of highly invasive thyroid cancer cells. This demonstrates licorice'spotential in clinical treatment of thyroid cancer and other endocrine-related disorders.[20]

***Pippali*:**

Selenium is required for a number of enzymes known as selenoproteins. The chemical reaction, which converts thyroid hormone T4 into T3, is catalyzed by specific selenoproteins. Selenium deficiency can impair thyroid function. The drug *Pippali* increases the absroption of selinium and this may be cause for the effectiveness of *Vardhamana Pipppli* in hypothyroid conditions.

Ashtanga Yoga

Yoga originated from Sanskrit word "*Yuj*" meaning union between mind, body and spirit. Include ethical discipline, physical postures, breathing control and meditation. The Eight Limbs of *Yoga*.

1. *Yama* 2. *Niyama*
3. *Asana* 4. *Pranayama*
5. *Pratyahara* 6. *Dharana*
7. *Dhyana* 8. *Samadhi*

Virtually everyone can see physical benefits of *Yoga*, and its practice can also give psychological benefits, such as stress reduction and a sense of well-being, and spiritual benefits.

The body's metabolism is regulated by the endocrine system, particularly the thyroid gland. *Yoga* for hypothyroidism is considered to be effective as it has a positive effect on the organs of the endocrine system, especially by stimulating the parathyroid and thyroid glands. The twisting, stretching, and compressing caused by the *Yoga* poses for hypothyroidism help in providing the endocrine organs with a massage and also improve their functioning *Yoga* for hypothyroidism also provides nourishment to the cells and improves the blood circulation.

***Sarvangasana* in *Yoga* for Hypothyroidism**

Sarvangasana is believed to be the most effective and ideal *Asana* (position) for the thyroid gland. This powerful posture places a great amount of pressure on the thyroid gland that dramatically changes the function by squeezing out the stagnant secretions and improving the blood circulation.

Other *Asana* in *Yoga* for Hypothyroidism

After *Sarvangasana*, *Halasana* and *Matsyasana* are beneficial for hypothyroidism. Other recommended *Asana* are the following:

- ❒ *Pavanamuktasana* with emphasis on neck and head exercises
- ❒ *Surya namaskara* (sun salutation pose)
- ❒ *Yogamudra*
- ❒ *Vajrasana* and other backward-bending positions
- ❒ *Paschimottasana* (seated forward bending pose)
- ❒ *Janushirasana* (head to knee pose)
- ❒ *Naukasana*
- ❒ *Uttanpadasana*

***PranayamaYoga* for Hypothyroidism**

Also known as *Yoga* breathing techniques, *Pranayama* is important for patients with hypothyroidism because it provides the energy needed by the body while also enhancing the oxygen intake. This improves blood circulation, gives relaxation and soothes a person's nervous system. The most effective *Pranayama* is *Ujjayi* which focuses on the throat. The relaxing and stimulating effects are beneficial for a person with hypothyroidism. *Kapalabhati* (breath of fire) and *Anulomvilom* are also beneficial for treating hypothyroidism.[21]

Conclusion:

Disease hypothyroidism is not described in classical Ayurvedic texts.But based on its clinical presentation its *Samprapti* (pathogenesis) can be understood. *Galaganda*is described by *Acharya* which can be correlated with thyroid disorders. Some of basic Ayurvedic principles which are used in management of hypothyroidism.

Some herbs like *Guggulu, Ashwagandha, Yashtimadhu*, *Jalakumbhi*, *Brahmi*, *Pippali* are proved that these herbs have some specific properties that are beneficial to reduce the symptoms in hypothyroidism. Various methods including *Yoga*

is helpful in such conditions. *Yoga* for hypothyroidism also provides nourishment to the cells and improves the blood circulation.Thus we see that in *Ayurveda* hypothyroidism and their symptoms can be managed at various levels effectively.

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Conceptual Study

A Conceptual Study of *Sroto-Dusti*

**Dr. Anupama Shukla, **Dr. Pankaj Kothari, ***Dr. Akhilesh Shukla, ****Dr. C. R. Yadav*

Abstract:

Srotamsi of the body comprise of channel of different kinds. They may be *Sthula*, *Sukshma* or *Anu*. In general usage the term *Srotamsi* comprehends all channel- big & small, perceptible & imperceptible- that compose the internal transport system of the body which provide platform for activities of the other important bio-factors like *Tridosha*, *Sapta Dhatu*, *Oja*, *Agni* etc. In *Ayurvedic* classics the term *Srotas* is used as dynamic inner transport system of body-mind-spirit organization in addition to circulatory system.

Srotas is one of the most controversial points, but of course important too, as it is recognized as the structural & functional unit of the body. It is pre-requisite for the maintenance of good health. Improper foods, erratic behaviour & such other things which are not conductive to the body brings abnormality in *Srotas* leading to manifestation of diseases. Adoptance of normal conductive foods & actions leads to happiness & sound health.

Key Words: *Srotamsi, Sthula, Sukshma, Anu, Tridosha, Saptadhatu, Oja, Agni*

सारांश–

शरीर में स्त्रोतस् विभिन्न प्रकार के चैनल या वाहिनी के रूप में शामिल किये जाते हैं । वे स्थूल सूक्ष्म या अणु हो सकता है। सामान्य शब्दो में स्त्रोतंसि शब्द का उपयोग उन सभी वाहिनी जो बड़े और छोटे रूप में अथवा प्रत्यक्ष और अप्रत्यक्ष रूप में, शरीर के आंतरिक परिवहन हेतु उत्तरदायी प्रणाली है के लिये जाना जाता हैं जो त्रिदोष, सप्तधातु, ओज, अग्नि आदि जैसे अन्य महत्वपूर्ण जैव कारकों की गतिविधियों के लिए मंच प्रदान करता है। आयुर्वेदिक ग्रंथो में स्त्रोतंसि शब्द का उपयोग संचार प्रणाली के अलावा शरीर, मन, आत्मा संगठन के गतिशील आंतरिक परिवहन व्यवस्था के रूप में किया जाता है।

स्त्रोतस् सबसे विवादास्पद बिंदुओं में से एक है, लेकिन निश्चित रूप से महत्वपूर्ण भी है। इसलिए इसे शरीर के संरचनात्मक और कार्यात्मक इकाई के रूप में जाना जाता है। अच्छे स्वास्थ्य को बनाये रखने के लिए स्त्रोतंस का स्वास्थ्य होना भी आवश्यक है। अनुचित खाद्य पदार्थ, अनियमित व्यवहार और इस तरह के अन्य बातें हैं जो शरीर के लिए हानिकारक है स्त्रोतंसो में विषमता लाता है जिसके परिणामस्वरूप रोगों की अभिव्यक्ति होती है । अतः इनका सामान्य परिवहन एवं निरोगिता शरीर एवं स्वास्थ्य को सुखी बनाने के लिए आवश्यक है।

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Conceptual Study

A Conceptual Study of *Sroto-Dusti*

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Introduction:

Srotas are those in which *Manas, Prana, Anna, Jala, Dosha, Dhatu, Updhatu, Dhatumala, Mutra, Purisha* are circulating & these are innumerable.[1] *Srotamsi* are defined as the passages through which the various *Dhatu* (tissues) that are undergoing the process of metabolic transformation are transported.[2] The *Srotas* are also called *Marga, Ayana, Panthana*, meaning passage, channels or gateway. *Srotas* have predominance of *Akasha Mahabhoot*. Each *Srotas* have their special function for each *Dhatu*. The work of one particular *Srotas* cannot be done by another *Srotas*, so there is selective function to allow only such materials as require by the *Dhatu* and not others.

Bodily humours *Vata, Pitta, Kapha* moves inside the *Srotas* to perform their normal function at different places. Similarly things which are beyond perception of sensory organ like mind etc. move inside the *Srotas* & are located in sentiment portion of the body. Healthy *Srotas* perform their normal function as a result body is free from diseases & unhealthy *Srotas* become root cause for the development of pathogenesis.[3]

Importance Of Srotas

Importance of *Srotas* in manifestation of the disease - *Srotas* act as the transportation system of our body. The *Dhatu* transported through *Srotas* are constantly subjected to metabolism. Without *Srotas* no body part can grow and develop or degenerate. *Srotovaigunya* plays vital role for the *Sammurchhana* of *Dosha* & *Dushya* at a particular site as a result disease manifest inside the body.[4]

Concept of Sroto-Dusti

The concept of *Sroto-Dusti* is a unique concept in *Samprapti Vigyana*. This concept is aimed at explaining the fundamental pathological changes that takes place in various part of the body before leading to any clinical manifestations. This literally means morbidity of *Srotas*. This is the term denoting actual type or mode of vitiation in a particular *Adhisthana*. Four types of manifestation of *Srotodusti* occurs viz. *Atipravritti, Sanga, Siragranthi* and *Vimarga-Gamana*. These four types of *Srotodusti* may occur either individually or in combined form. Out of these four, *Sanga* or so called *Srotorodha*, give rise to most of the diseases.[5]

1. Atipravritti:

Increased activity of one or more *Srotas* can be taken as *Atipravrutti*. According to *Acharya Charak* "*Atyutsaragastuatipravrutti*". This term may be taken for excessive outflow of any *Dhatu, Mala* or excessive functioning of any part of the body. This type of *Dusti* is common in *Mutravaha, Purishvaha & Artavavaha Srotas*. For example:

Sr. No.	*Vyadhi*	*Lakshan*
1.	*Prameha*	*Tatraavilaprabhutamutralakshnah*[6]
2.	*Atisara*	*Gudenbahudravasaranm..*[7]
3.	*Raktapradara*	*Raktapramanm-utkramyagarbhashyaagatahsira.....*[8]

2. Sanga:

Also called *Srotorodha*. This is the most common & important type of *Sroto-Dusti* found in vast number of disorders. *Sang* means stagnation, stoppage, obstruction etc. this may be considered as an opposite pathological phenomenon to *Atipravrutti*.

Sanga may be partial or complete. This may be interpreted as loss of mobility or plugging of some foreign material or compression, obstruction of

passage. *Dhatu-Dusti* or structural deformity of the *Srotas* resulting in *Sanga* such as stenosis, inflammation of vessel etc. Example of *Sangapradhan Vyadhi* :

Sr.No.	Srotas	Vyadhi	Samprapti
1.	*Pranavaha*	*Hikka*	*Hikkakarotisamrudhy* [9]
		Shwasa	*Yadasrotamsisamruddhyamaarutkaphapurvaka*[10]
2.	*Udakvaha*	*Jalodara*	*Ruddhvaswedaambuvaahinidosha* [11]
3.	*Annavaha*	*Udavarta*	*Karotivinmutrasangkramatudavarta* [12]

3. Siragranthi- Thickening, new growth or tumors. Ex:

Sr. No.	Vyadhi	Samprapti
1.	*Arsha*	*Doshastvak-mamsa-medamsisamdushyavividhakritin, mamsaankuranapaanadou* [13]
2.	Granthi	*Vatadyomamsrukapradustahsamdushyamedaschtathasirasch*[14]

4. Vimargagamana- Leaving its own path and entering into other path. Ex:

Sr. No.	Vyadhi	Samprapti
1.	*Chhardi*	*Vayumahasrotamsisampravruddha* [15]
2.	*Unmada*	*Manasodoshairunmargagairmadah* [16]

Conclusion:

Acharya have described that the entire range of life processes in health & disease depends in integrity of the *Srotas* system- as stated that "*Srotomayam hi Shariram*". Without healthy *Srotas* body cannot grow normally. *Srotamsi* indicate all macro, micro level description pertaining to exchange, transportation & excretion.

Srotamsi include all structural & functional units from grass to subtlest designed to carry specific material, molecules, messages, impulses, emotions & thoughts. Any slight disturbance at the level of *Srotas* leads to *Dosha-Dushya-Sammurchhana* & as a result disease manifest inside the body. A wise man must have proper knowledge of *Srotas* to approach a patient in a holistic way. Any defect of *Srotas* must be corrected quickly for the restoration of normal health.

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Conceptual Study

The concept of *Prajnaparadha* in relation with *bhutvidhya*.

*Vd.Yogendra D. Kamble, **Vd.Kedar Lal Meena, ***Vd.Govind Pareek

Abstract:

Ayurveda is a holistic science and lays emphasis on preserving and promoting the fitness of healthy individuals besides giving methods for treatment of disease. *Ayurveda* is not a science dealing only with drugs. It is a more a way of life and describes methods for promotion, prolongation and maintenance of positive health .The act done by person, who is deranging of understanding or intelligence, will and memory is to be regarded as volitional transgression[1]. To knows about *Prajnaparadhadha* we should understand the three factors *dhee, dhriti* and *smriti* also understand as intelligence, controlling power and memory. When we understood the normal physiology of above three we can easily understood the basic pathology of *Prajnaparadha*. It is the deliberate, willful indulgence in unhealthy practices that leads to unbalanced body functions and disease.

Key words: *Prajnaparadha, bhutavidhya, Ayurveda*.A

सारांश–

आयुर्वेद एक पवित्र विज्ञान है जो कि प्रत्येक व्यक्ति के स्वास्थ्य का वर्धन, संरक्षण करता हैं। इसके आठ अंग है, जिसमें से एक अंग का नाम भूतविद्या हैं। भूतविद्या आयुर्वेद की वह शाखा है जो कि दैव, असुर, गन्धर्व आदि ग्रह जन्य कारकों को नियंत्रित करती है।

प्रज्ञापराधजन्य कारणों में आसक्ति रखना अस्वस्थता का जनक है, जो कि शरीर की क्रियायों को असंतुलित करता है तथा रोगवर्धक हैं। प्रज्ञापराधजन्य मूलभूत निदान का ज्ञान होने पर हम धी, धृति, स्मृतिजन्य कारकों को जानकर बुद्धि, धारणाशक्ति एवं स्मृति को नियंत्रित कर सकते हैं।

धीविभ्रंश, धृतिविभ्रंश, स्मृतिजन्य विभ्रंश इन तीनों विभ्रंशो का मूल कारण प्रज्ञापराध हैं। इन प्रज्ञापराध जन्य कारणों से दोषों की मूलभूत साम्यावस्था समाप्त हो जाती है जो कि समस्त प्रकार के रूजा एवं दु:खों का कारण हैं।

इस लेख के अन्तर्गत प्रज्ञापराध एवं भूतविद्या के आपसी संबंध को प्रतिपादित करने का प्रयास किया जायेगा।

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Conceptual Study

The concept of *Prajnaparadha* in relation with *bhutvidhya*.

Vd.Yogendra D. Kamble, Vd. Kedar Lal Meena, Vd.Govind Pareek

Introduction:—

Bhutavidya Is the name of that branch which describes the features of persons possessed by spirits like *Deva, Asura, Gandharva, Yaksha, Raksa, Pitr, Pisaca, Naga,* etc, and methods of propitiating them such as *Santikarma,* (pacificatory rites) *Baliharana (*offering oblatious) etc Observing non human character in human being in his qualities such as knowledge, speech, physical activities, strength & valour such as persons should be understood as 'seized by demons'.

The *Ayurveda* is the life science mainly the medical science. The whole knowledge in the universe comes from the *sankhya*. Thus *sankhya* is the ancient knowledge and the main source for the knowledge. It is the philosophy of proceeding with the numbers and ultimate in the universe. The most fundamental conception is that the there are two entirely distinct essence existing from eternity i.e. prakriti and purusha. These numbers are also used in *Ayurveda* the components of the individual person are nothing but the numbers knowledge gained from the sankhya. Five primordial elements and the *cetana* as the sixth components are the shaddhattvatmakpurusha of *Ayurveda*.[1] The twenty four elements[2] build up the sharira- manas, the ten sense organs, the five senses, and eight constitutes of the nature- *Avyakta, Mahan, Ahankara* and five primordial elements. This knowledge of numbers is very useful for getting the final liberation. The *moksha* is attained by understanding of twenty five numbers. The life arises in the form of *bhuta*.[3]

Materials And Methods:

Among eight paths *bhuta-vidya* deals with mainly imbalances of mind and diseases related to them with their treatment. The inclusion of the *bhutavidya* in the classical medical treatises suggests that the lessons on popular beliefs and folkloric treatment as the phases of sorcerers and curers were considered enough to be included in the medical curriculum of *Ayurveda* student. *Bhuta-vidya* the term made by two words i.e. *bhuta* and *vidya*. *Bhuta* is understood by many synonyms like as animals, live bodies, para human bodies etc.

Cakrapani quoted the word prani as synonym for *bhuta*.

In some places bhuta is considered as *Pancamahabhuta* i.e. *Prthvi, ap, Teja, Vayu, Akasha*. The *Ayurveda* also believes in the past *karma* or deeds as a causative factor of certain diseases. *Bhutavidya* deals with the causes, which are directly not visible and have no direct explanation in terms of *tridosha*.

The deeds of these *daiva, rakshasa, yaksha,* change the behavioral nature of the person. In both *nijavikara,and agantuja vikara* alteration in body and the mind is seen in the person. It justifies the psychosomatic approach of ayurveda.*Unmada, apasmara, atatvabhinivesha, amanushopasarga* are the main disorders explained under the branch of *bhutavidya*.

Bhutavidya

It is the name of that branch which describes the features of persons possessed by spirits like *deva, asura, gandharva, yaksha, raksha, pitr, pishaca, naga,* etc, and methods of propitiating them such as *shantikarma*, (pacificatory rites) *baliharana* (offering oblatious) etc.[4]

Observing non human character in human being in his qualities such as knowledge, speech, physical activities, strength and valour such as persons should be understood as 'seized by demons'.

Prajnaparadha

The act done by person, who is deranging of understanding or intelligence, will and memory is to be regarded as volitional transgression.[5] To knows about *Buddhi* we should understand the three factors *dhi, dhriti* and *smriti* also understand as intelligence, controlling power and memory. When we understood the normal physiology of above three we can easily

understood the basic pathology of *Prajnaparadha*. It is the deliberate, willful indulgence in unhealthy practices that leads to unbalanced body functions and disease.[6]

Buddhi-

Buddhi is our decision making faculty. It discriminates about facts and fallacies, eternal and non-eternal, good and evil.[7] it is the faculty of the brain which collects knowledge, attributes and qualities of all aspects and objects of the universe, and then screens, dissects and analyzes them with total reasoning, logic and discrimination, ultimately, projecting definite and decisive conclusions. The power of forming and retaining conceptions and general notions, intelligence, reason, intellect, mind, discernment, judgment. It is a feminine Sanskrit noun derived from the same root as the more familiar masculine form Buddha (budh- to be awake, to understand, to know). It denotes an aspect of mind that is higher than the rational mind and that is attracted to *Brahman* (i.e., to "Truth" (sat) or "Reality" (dharma)). Unlike *mana,* which is a composite of mind and ego deriving from an aggrandized "I-sense" that takes pleasure in pursuing worldly aims and sense pleasures, *Buddhi* is that faculty that makes wisdom possible. In *Sankhya* and yogic philosophy both the mind and the ego are forms in the realm of nature (*prakriti*) that have emerged into materiality as a function of the three *gunas* through a misapprehension of *purusha* (the consciousness-essence of the jivatman). Discriminative in nature *Buddhi* is that which is able to discern truth (satya) from falsehood and thereby to make wisdom possible.

It corresponds to the Platonic conception of nous. Just as nous plays a critical role in salvation in orthodox Christianity, so too does *Buddhi* play an important role in liberation (i.e., enlightenment) within Hinduism, *Buddhi* sm and Yoga. In the journey of life, the *Buddhi* (intelligence) is most important—"*Niscayatmaka Buddhi*."[8]

The intelligence is the determinant in life. In daily life, many difficulties and problems arise like waves, which man has to solve. What is the basic agency for resolving these difficulties? It is the *Buddhi* . Without the intervention of the *Buddhi* none of our problems can be solved. The man filled with doubts perishes "*Samsayatma vinasyathi*." Because the *Buddhi* helps to end doubts, it has been described as one beyond the sense organs—"*Buddhi grahyam athindriyam*."

The *Bhagavad Gita* has laid down two banks to channel its message. Without these banks the river of life will be subject to many hazards and difficulties. The two banks consist of two eight syllable mantras. One is "*Sraddhavaan labhathe Jnanam*" (The man of earnest faith acquires supreme wisdom). The other eight-syllable mantra is "*Samsayaatma Vinasyathi*" (The one filled with doubts perishes). When life flows between these two regulating principles, it will be blessed with peace and happiness. It is only when man is guarded on either side by Sraddha (earnest faith) and Nissamsaya (freedom from doubt) will he be able to reach the goal of life.

Buuddhivimbhrasa:

When The Person fails to understand what is eternal and non-eternal, true and false it is known as derangement of understanding. One cannot see the events in real forms. It is the function of *Buddhi* to see everyone in equal level or to perceive rightly. When it fails it leads to derangement of understanding.[9]

Dhritivimbhrasa:

The English meaning of the word *dhriti* is holding, personifying. It makes the mind able to restrain from any harmful objects. When it fails mind cannot restrain and thus suffers with illness. In the event of derangement of the will the mind which is always reaching out of its objects, is incapable of being restrained from undesirable objects. The will is controller of it.[10]

***Smritivimbhrasa*:**

*Smriti i*s self remembrance. *Smriti* literally means "that, which is remembered," *Smriti i*s one of the structuring dynamics of *rgveda*. It highlights the quality of Memory involved in structuring *rgveda*. With reference to consciousness, *Smriti* comprises the specific sets of laws of Nature that are engaged in promoting the quality of *Rshi* — the observer, the witnessing quality — within the *Samhita* level of consciousness, providing a structure to the eternally

silent, self-referral, self-sufficient, fully awake state of consciousness, which is intimately personal to everyone. The healthy memory supported by *satva* maintains the health where the memory afflicted by *rajas* and *tamas* causes a disease. When the mind clouded by passion and delusion the retention of true knowledge is destroyed that is known as derangement of memory;[11] for indeed the memorable abides in the memory. The wise man when afflicted with disease, which arises from volitional transgression and is the result of one's own action, should not rail against the gods, the manes or the demons. He should regard his very self as the author of his pain and pleasure. Accordingly he should search out what is good for him and not allows him to be fear-stricken.

Discussion:

The treatment for *manas vyadies* is described in *bhutvidya* especially *devvyapasharya chikitsa* is known to treat such disorders which develops from the disturbance from *manas doshas*. Wherever a disease develops it's not only affect physically but also psychologically so there is relation between *sharirik* and *manas dosha*. When *manas dosha* are more aggravated then *manovahasrotogata vyadhis* produce like *unmade* and *apasmara* etc. the treatment of such of disease is *devvyapasharya* which is separately described in one of the branch of *asthanga ayurveda* which is *bhutvidya*. So at a glance are may assume that *prajnaparadha* is not only the cause for physical, pathological disorders but psychological also. So there is a realtion between base of prajnaparadha and manas vyadi and the treatment is described in bhutvidya. In this branch we treat such type psychological disorder i.e. *unmade* and *apasmara*.

Conclusion:

Neither god, nor *gandharva, pisacha* nor *rakshasa* are capable to create disorder in our body. The man is being suffered from his deeds. The deeds of a person bring happiness or sorrow in his life. Every person is responsible for his deeds. The Prajnaparadha is the main causative factor for vitiation of dosha.

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Conceptual Study

A Revolutionary Notion In *Ayurveda*: Benefits Of *Garbhini Paricharya*

*Dr. Shweta Dewan, **Dr. Pallavi Dixit

Abstract

Background: Good subsequent care of pregnant women is very imperative to society and to future generations. *Garbhini Paricharya* refers to the regular medical and nursing care recommended for women during pregnancy described in classics.The health of future generations is to a great extent determined by the baby's growth and development within the womb. The success of foetal life not only harnessesthe health of the newborn, but also the health of the mother. The supervision of comprehensive care should be of a regular and periodic nature and according to the need of an individual. During the United Nations General Assembly 2010, in New York, UN Secretary-General Ban Ki-moon launched the Global Strategy for Women's, Children's and Adolescents' Health, 2010-2030.

Benefits: The proper *garbhini parichary* result in the proper development of the foetus, its delivery, the health of the mother and thus her ability to withstand the strain of labour and have an eventless post-natal phase. The concept of*garbhini paricharya* describedincludes monthly dietary regimen and living style for the pregnant women etc. all of these advices are done with the aim to ensure normal pregnancy and uncomplicated labour with delivery of a healthy baby from a healthy mother.

Conclusion: The concept of *Garbhini paricharya* is an enhanced way of living a healthy life by a pregnant woman during this physiological journey. If such programmes are implemented they can a great aid in building a healthy nation.The speciality clinics throughout the country catering to the development of this *ayurvedic* theory will not only help empowering the AYUSH practitioners in the field to practice effectively but will also improve to be a new strategy to promote Indian ancient wisdom internationally. The requisite of the today's scenario is to globalize *ayurveda* by pioneering in such ground breaking techniques which have a way more weightage in global health issues.

Key words: *Garbhini paricharya*, labour, revolutionary, *garbhasthapaka* drugs.

सारांश:

पृष्ठभूमि: गर्भवती महिलाओं की उचित अनुवर्ती देखभाल समाज तथा भविष्य की पीढ़ियों के लिए बहुत जरूरी हैं। गर्भिणी परिचर्या का वर्णन संहिताओ में, गर्भावस्था के दौरान महिलाओं के लिए नियमित रूप से चिकित्सा और नर्सिंग देखभाल की सलाह देने हेतु किया गया हैं। भविष्य की पीढ़ियों का स्वास्थ्य काफी हदतक बालक के विकास और गर्भ के भीतर भ्रूण के विकास द्वारा निर्धारित किया जाता है। भ्रूण जीवन की सफलता से नवजात शिशु के स्वास्थ्य दोहन के साथ माँ के स्वास्थ्य संरक्षण भी निर्भर करता है। गर्भिणी की संपूर्ण देखभाल का पर्यवेक्षण एक नियमित, आवर्तीत, प्रतिपुरूष प्रकृति तथा व्यक्ति की जरूरत के अनुसार होना चाहिए। न्यूयॉर्क में संयुक्त राष्ट्र जनरल असेंबली 2010 के दौरान, संयुक्त राष्ट्र महासचिव बानकी मून ने महिलाओ, बच्चों और किशोरों के स्वास्थ्य के लिए वैश्विकरण नीति 2010–2030 का शुभारंभ किया।

लाभ: उचित गर्भिणी परिचर्या के परिणाम स्वरूप भ्रूण का समुचित विकास तथा प्रसव; इसके साथ मां का स्वास्थ्य और गर्भिणी में प्रसव तथा प्रसवोत्तर चरण को सहन करने की क्षमता होती है। गर्भीणी परिचर्या की अवधारणा के अन्तर्गत गर्भवती महिलाओं के लिए मासिक आहार और जीवन शैली का वर्णन किया गया हैं। इन सभी सलाहों के परिपालन से सामान्य रूप से गर्भावस्था व सुखपूर्वक प्रसव के साथ एक स्वस्थ बालक का प्रसव एक स्वस्थ माँ से, इस प्रकार यह सभी उद्देश्य

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सुनिश्चित हो जाते हैं।

निष्कर्षः गर्भिणी परिचर्या की अवधारणा इस दैहिक यात्रा के दौरान एक गर्भवती महिला के लिए स्वस्थ जीवन जीने का एक बेहतर तरीका हैं। अगर इस तरह के कार्यक्रमों को क्रियान्वित किया जाता है तो यह प्रारूप एक स्वस्थ राष्ट्र के निर्माण में बहुत सहायतक सिद्ध हो सकता हैं। स्पेशलिटी क्लीनिक के द्वारा संपूर्ण देशभर में गर्भीणी परिचर्या का यह आयुर्वेदिक सिद्धांत, आयुष चिकित्सकों को चिकित्सा अभ्यास के क्षेत्र में प्रभावी रूप से सशक्त बनाने में मदद करेगा लेकिन साथ ही साथ अंतरराष्ट्रीय स्तर पर भी भारतीय प्राचीन ज्ञान को बढ़ावा देने के लिए एक नई रणनीति में सुधार भी करेगा। आज के परिदृश्य की अपेक्षा है, कि वैश्विक स्वास्थ्य कार्यक्रमों में जो अति महत्वपूर्ण है उनमे इस तरह की अभूतपूर्व तकनीकों में श्रेष्ठ तकनीक गर्भीणी परिचर्या का प्रयोग आयुर्वेद की सार्वभौमिकता सिद्ध करने हेतु करना चाहिए।

Conceptual Study

A Revolutionary Notion In *Ayurveda*: Benefits Of *Garbhini Paricharya*

Dr. Shweta Dewan, Dr. Pallavi Dixit

Garbhini Paricharya: Care ofthe Pregnant Woman

Introduction:

Garbhini Paricharya or antenatal care is the most important aspect in the whole area of *Prasuti Tantra*. This is so because all other aspects depend on this phase. The proper *Garbhinicharya* would result in the proper development of the foetus, its delivery, the health of the mother and thus her ability to withstand the strain of labour and have an eventless post-partum phase. The care of the pregnant woman reflects on the quality and health of the offspring for these reasons our *acharyaas* has given a detailed and systematic and month wise regimen plus a list of do's and don'ts to be followed in the antenatal phase. The *Garbhini Paricharya* is broadly discussed under three topics:

- ***Maasaanumasika pathya*:** month wise dietary regimen and prescriptions
- ***Garbhasthaapaka dravyaas*:** Substances which are beneficial to pregnancy
- ***Garbhopaghaathakara bhaavas*:** Activities and substances that are harmful. This can also be listed as the various foods and activities that are prescribed, according to their effects on the *garbha*.

***Maasaanumaasika pathya*: Month wise dietary regimen:** As there is a constant development of the embryo there would also be difference in its requirements of food and nutrition. Thus the requirements of the mother also change. Having understood this change in requirements, the seershave given in detail the monthwise dietetic regimen.

Recommended Diet And Regimen For Various Months

First Month

As soon as pregnancy is suspected, the mother should take non-medicated cold milk separately in desired quantity (considering her digestive power and strength) Congenial food should be taken in the morning and evening. Massage with oils should be given but rubbing of unguents should be avoided (as they would liquefy the *doshas*).[1]

Second Month

In the second month, the woman should be given milk medicated with *madhura drugs* and liquid foods which are sweet and cold.[2]

Third Month

In the third month she should take milk with honey and ghee[3] and *Shasti* (a variety of rice) cooked in milk. In the first three months of pregnancy the product of fertilization is in a fluid/jelly state and thus the woman should be given more of liquids or fluids. Also during these three months the major part of mass is formed - for this *madhura* and*sheeta veerya* substances should be given which help in the formation of the cellular mass and promote growth.

Fourth Month

Butter extracted from milk (not from curds) in the quantity of one *aksha* (approximately 10 grams) or milk with the same amount of better should be given.[4] Cooked *Shasti* (a variety of rice) with curds, pleasant food, mixed with milk and butter and meat of wild animals[5] should be given to the pregnant women during the fourth month. During the fourth month there is solidification and the development of the limbs. So there is more need of solids, and more of solid food is advised.

Fifth Month

Ghee prepared with butter extracted from milk (*Ksheera sarpis*) and food similar to that of the fourth month should be given except that, ghee is given (mixed with milk) instead of butter.

Sixth Month

Ksheerasarpis medicated with the drugs of *madhura gana - ghrita* or rice gruel medicated with*gokshura* (*Tribulus terrestris*) should be given in the sixth month. As it is quite common to notice retention of urine in this phase of pregnancy, *madhura gana* drugs and *gokshura* would help as diuretics.

Seventh Month

The diet given in the seventh month should be the same as in the sixth month, along with ghee medicated with *prithak parnyaadi* (*Vidaarigandhaadhi)* group of drugs. This would help in the proper development of the foetus.

Eight Month

Before listing out the diet and regimen for the eighth month it would not be out of place to mention the role of *vata* in the process of delivery and how important it is to maintain it. The regimen and diet prescribed are of the nature of controlling *vata* especially the *apana vayu*. The functions of *apana* v*ayu are "Vatavinmoothra shukraartava garbhanishkramanaadikriyaaha*" i.e. the expulsion of gas, faeces, urine, *shukra* (semen), *artava* (menstrual discharge) and the delivery of the foetus.[6] Hence to have normal delivery it is very important to maintain the*vata* and due to this reason one finds that towards the last few months of delivery, all efforts are taken to keep the*vata* in an unvitiated state. As has been said earlier*vata* plays an important role in the delivery of the *garbha* - thus care is taken to maintain it. For this reason,*basti* i.e. medicated enema, is administered during the eighth month. It forms one of the*panchakarmas* which are the five types of eliminative therapies. *Basti* is broadly of two types -*anuvasana basti* (unctuous enema) and *asthapana basti* (corrective enema). *Basti* in general is the therapy of choice to eliminatevitiated *vata*. *Anuvasana basti* or*sneha basti* differs from *asthapana basti* or*nirooha basti* by the proportion of the *kashaayas* (decoctions) and *snehas* (oils) used in preparing the enema. While *anuvasana* has a lesser proportion of*Kashaayas*, the *asthapana* has lesser quantity of *sneha*. *Sushruta* has advised *asthapana basti* (a medicated enema with non-unctuous substances like*kashaaya*) with decoction of *badari* (*Zizyphus jujube*) mixed with*bala* (*Sida cardifolia*), *athibala* (*Abutilon indicum*), *shatapushpa* (*Foeniculum vulgare*), *palaala* (pasted sesamum seeds), milk, curds, *masthu* (sour buttermilk), oil, salt, *madanaphala* (*Raundia dumentorum*) honey and *ghrita* and followed by*anuvasanabasti* (a medicated - unctuous enema) with oils medicated with milk and decoction of drugs of *madhura* group. These would help in clearing the retained faeces and in*vataanulomana* (regulation of *vata* by its downward movement).

Ninth Month

The pregnant woman should be given *anuvaasana basti* with oil prepared with the drugs of *madhura* group, and also vaginal tampons (*pichu*) with the same oil for lubrication of *garbhaashaya* (uterus) and *prasava maarga* (birth canal). Daily bath with cold decoctions of *vatahara* drugs are also advised. Meat soups with cooked rice and fat or rice gruel mixed with good quantity of fat should be given as diet.

***Garbhasthaapaka Aushadhi* - Substances Beneficial For Maintenance Of Pregnancy -** *Garbha sthaapaka dravyas* counter act the effect of the*garbhopaghathakara bhaavas* and help in the proper maintenance of the*garbha*. They can also be used in the treatment and prevention of abortion. These are to be used as a routine as they are beneficial for the maintenance of proper health, growth and development of the mother and foetus. Some of the *garbhasthaapaka aushadhis are aindri, braahmi (Bacopa monnieri), shathaavari (Asparagus racemosus), doorva* (*Cynodon dactylon),* etc. These should be taken orally as preparations in milk and ghee. A bath with cold decoction of these drugs should be given during*pushya nakshatra*. These should be kept in close contact with the mother and can be used as amulets around the right arm and on the head. Drugs of the *jeevaneeya gana* can also be used in a similar way.

***Garbhopghaatha Kara Bhaavas* - Activities Harmful To The Foetus** *Garbhopghaatha kara bhaavas* are the *aahaara* and *vihaara* which are harmful to the*garbha*(foetus). These may cause some congenital defects in the child and are not conducive to the birth of a healthy child, with all the good qualities.

These can be grouped under two different headings namely *ahara* and *vihaara*.

Ahara (Food) To Be Avoided During Pregnancy - The pregnant woman should avoid use of intoxicating substances like wine, meat (in excess), *ushna* (hot), *teekshna* (sharp), *katu* (pungent), *guru* and *vishtambhi* (hard and heavy to digest) foods.[7]

Viharas (Activities And Behaviour) To Be Avoided During Pregnancy - The pregnant woman should avoid strenuous exercise and coitus (both excessive) harsh or violent activities, travel in vehicles (on uneven road).[8] *Sushruta* has said that - the pregnant woman should totally give up coitus, exercise *santarpana* (satiation or anabolic foods and regimen), *swapna viparyaya* (sleeping in the day and keeping awake at night), *utkataasana* (squatting or the posture of sitting on the hams with the soles of feet touching the ground). She should not suppress her natural urges and she should not undergo *snehana* (oleation therapy) and *raktamokshana* (bloodletting). Her mind should be always in a pleasant state and she should neither touch nor see unpleasant things of disfigured persons (with some physical defects) scary objects, nor listen to exciting and scary stories. It is said that the mental state of the mother can influence the outcome of pregnancy as well as the child to be born. Hence one is advised to listen to scriptures - in some families the recitation (*paaraayana*) of suitable texts such as the *Sundara Kandam* (from the *Ramayana*) or the tenth *skanda* of *Bhaagavata* is performed routinely. She should not talk in high pitch and avoid thoughts which would promote her anger or fear - all these physical and mental activities would harm the foetus.[9] *Vagbhatta* has said that she should also avoid prolonged stay in the hot sun and peeping into pits and wells.[10] *Harita* advices, avoidance of foods which are *vidahi* and causeconstipation and vegetables like yam, garlic and onions.[11] The seers have contra indicated the use of sudation, emesis, *kshaara* (alkalies) foods along with polluted food and *viruddhaahara*.

The effects of the various *garbhopagathakarabhaavas* have been mentioned as follows: squatting or sitting in abnormal postures, control of natural urges, use of pungent hot foods and exertion would cause intra uterine death of foetus death of foetus or premature delivery or abortion. Sleeping in supine position with stretched extremities would cause the encircling of the umbilical cord around the neck. Indulgence (excessive) in sex would cause deformed impudent or lazy child. Over sleeping during pregnancy could result in a child who is sleepy, ignorant and has a weak *agni* (power of digestion). Regular use of wine or other intoxicants would result in a child with a poor memory and an unstable mind. The excessive use of any of the six *rasas* would cause - urinary disorder, skin and eye disorders, premature aging, infertility emaciation, weakness and disorders like flatulence and eructation respectively.[12]

Douhridya - One often comes across, varying and erratic likes and dislikes, in a pregnant woman irrespective of the culture or the part of the world she belongs to. These likes and dislikes are peculiar to the state of pregnancy and they vary in vary in each woman. Some of these desires are very strong. The speciality or peculiarity of these likes and dislikes are that they are very often in contrast to the usual desires of the same woman when she is not pregnant. Though these symptoms have been mentioned and described, there seems to be no understanding of its actual cause. *Ayurveda* has a definite understanding of these varied desires and terms the condition as*douhridyam*. The reason for the manifestation of *douhridyam* is the presence of a second*hridaya* in the foetus. As such she has two *hridayas* one of her own and the other of the foetus. She is called a *douhrudini*. As the foetus reaches the fifth month the *chetna* (i.e. consciousness) enters it and starts having its own individual desires, these along with those of the mother are manifested as a contrasting combination of likes and dislikes. This is a unique concept that explains the sudden and abnormal likes and dislikes that pregnant women may manifest. It is said that these special desires can also help in the assessment of the sex of the child,as they are peculiar to the sex of the unborn baby. According to our seersthe foetus grows up to a period of four months the *chetna* or the life gets associated with the foetus and this causes the longings of the mother. These longings and desires are to be satisfied. Not doing so may cause abnormalities of the foetus like dwarfism. These desires are not always beneficial, and may prove harmful to the foetus (even when fulfilled). In

such cases one should use onesof power of reasoning, so as to fulfil her desire and at the same time render it harmless.

Conclusion - By following these dietetic regimens prescribed, the pregnant woman, having normal development of foetus, remains healthy and delivers a child possessing good health, energy, strength, complexion and voice. The child would also be sturdy. They are recommended for the pregnant woman right from the first month upto the ninth month of pregnancy. Softening of placenta *(apara)*, pelvis, waist, sides of the chest and back downward movement of *vata(vathaanulomana)* - this is needed for the normal expulsion of foetus during delivery. Normalisation of the urine and stool and their elimination with ease, softening of her skin and nails, promotion of strength and complexion, delivery with ease of a healthy child endowed with excellent qualities in proper time.The success of foetal life determines not only the health of the newborn, but also has a major impact on adult health and disease risk. Good perinatal health is therefore important to individuals, to society and to future generations.

Ayurveda as an eternal holistic science has a long way to go in terms of establishing itself as a first line of medical health system. Getting graduates and post graduates skilled in these principles will help them practice the science effectively in the medical field where there are piles of manoeuvres to attract the patients to follow one's techniques. It is not only cost effective but san adverse or side effects. After all people today are getting back and close to nature. One has to seize this opportunity for the benefit of uplifting ayurveda. And who else will take the responsibility if not us. At last we have to get equipped with loads of practical expertise in knowing the hidden basic fundamentals like these to promote ayurveda, the science of life.

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LITERARY REVIEW

A Criticle Review on Concept Of 'Herbal Nebulizer' in The Management of *Tamaka Shwasa* (Bronchial Asthma)

*Dr. Archana Nivrutti Bhangare, **Dr. Sandeep Madhukar Lahange,

Abstract

At present, many chronic recurrent airway disorders have been increasingly seen all over the global population. *Ayurveda* has described one of such disorder as namely *Tamaka Shwasa* which is similar to Bronchial Asthma mentioned in Modern Medicine. It is calling the attention of Medical world due to significant burden in terms of health care costs and reduced participation in family life.

Asthma is defined as a disorder characterized by chronic airway inflammation and increased airway responsiveness to a variety of stimuli. It is manifested physiologically by a widespread narrowing of air passage which may be relieved spontaneously or as a result of therapy and, clinically by paroxysms of dyspnoea, cough and wheezing. Since the management of Bronchial Asthma with allopathic medicine is temporary and at times associated with serious toxic effects therefore considering the demand of society and taking the responsibility it is necessary to introduce, develop and launch Herbal Nebulizer as safe and effective *Ayurvedic* procedure for the management of *Tamak Shwasa* (Bronchial Asthma).

Ayurveda has practical solutions for identifying & treating the underlying causes and can bring lasting relief to *Tamak Shwasa* (Bronchial asthma) sufferers. In *Ayurveda* Proper Nebulization therapy has been not explained but the process of *Dooma-Pana*, *Dhoopan* and *Nasya* has may be similar in some extent. Herbal Nebulizer may likely to act on the required line of management in *Tamak Shwasa* (Bronchial asthma). As this therapy contains herbal components, it may establish quite safe & without any side effects even after prolonged use by the patients.

Key words: *Tamak Shwasa,* Bronchial asthma, *Dhoompan*, Herbal Nebulizer

सांराश –

वर्तमान मे श्वसन संबधी बार बार होने वाली दीर्घकालीन बीमारियाँ बढती जा रही है। आयुर्वेद मे इसी संबध मे एक व्याधि का वर्णन किया है। जिसका नाम तमक श्वास है। आधुनिक शास्त्र मे ब्रोन्कियल अस्थमा इससे तालमेल रखता है। जिसने पूरे चिकित्सा जगत का ध्यान खींच रखा है। अस्थमा व्याधि श्वसन नलिका का दीर्घकालीन शोथ के रूप मे दिखाई देती है और यह शोथ विविध प्रकार के उत्तेजक कारणों से बढता है। शरीर क्रिया की दृष्टि से इसे श्वसन नलिका का संकोच कह सकते है। इस व्याधि मे श्वास कष्टता; कास एवं सशब्द श्वसन होता है, जो चिकित्सा द्वारा ठीक हो सकता है। आधुनिक शास्त्र मे ब्रोन्कियल अस्थमा की चिकित्सा अल्पकालीन है तथा इसके दीर्घकाल सेवन करने से गम्भीर विषाक्त प्रभाव दिखाई देते है। इसलिए समाज मे इसकी चिकित्सा की आवश्यकता तथा आयुर्वेदिक चिकित्सा के परिपेक्ष मे जिम्मेदारी को ध्यान मे रखते हुए हर्बल नेबुलाइजर संकल्पना, उसका परिचय एवं उसका तमक श्वास (ब्रोन्कियल अस्थमा) मे बिना किसी विषाक्त प्रभाव एवं यशस्वी आयुर्वेदिक चिकित्सा विधि के रूप मे स्थापित करने की जरुरत है। आयुर्वेद शास्त्र तमकश्वास (ब्रोन्कियल अस्थमा) प्रभावित व्यक्तियों की पहचान कर उसके कारणों की यथार्थ चिकित्सा करके रोगियों को उपशय दे सकता है। आयुर्वेद शास्त्र मे नेबूलाईजेशन चिकित्सा पद्धति का प्रत्यक्ष वर्णन नहीं किया है, किन्तु धूमपान ,धूपन और नस्य विधियों का वर्णन किया है, जो कुछ हद तक इससे समानता दिखाते है। हर्बल नेबुलाइजर तमक श्वास मे योग्य चिकित्सा विधि स्थापित हो सकती है इसी चिकित्सा विधि मे वनस्पतियों का उपयोग होने के कारण यह सुरक्षित एवं विषाक्त प्रभाव के बिना दीर्घकाल ले सकते है।

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LITERARY REVIEW

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Dr. Archana Nivrutti Bhangare, Dr. Sandeep Madhukar Lahange

Introduction

In *Ayurvedic* classics various diseases has been explained and each disease have subtypes mainly based on *Doshik* classification like *Vataja,Pittaja,Kaphaja* & *Sannipataja* etc. but in *Shwasa Roga* normal procedure of classification of diseases is not maintained here *Shwasa* is classified according to clinical features. *Shwasa* or difficult breathing may appear as an individual disease termed as *Swatantra Vyadhi* in *Ayurveda* or sometimes it may appear as a symptom of other diseases and so long this exists secondary, it termed as *Paratantra Vyadhi*. So *Shwasa* can appear as an independent disease or it may appear as symptom of other diseases.

Asthma is a syndrome characterized by airflow obstruction that varies markedly, both spontaneously and with treatment. Asthmatics harbor a special type of inflammation in the airways that makes them more responsive than non Asthmatics to a wide range of triggers, leading to excessive narrowing with consequent reduced airflow and symptomatic wheezing and dyspnoea. Long term use of modern medicine produces the serious toxic effects such as- Palpitation,Tremers, Nervousness, Bronchospasm, Throat irritation, Hoarseness of voice and Acidity etc.

On the basis of the clinical features Bronchial Asthma can be correlated with *Tamaka Shwasa*, a disease described under the heading of five types of *Shwasa roga* in *Ayurvedic* classics. According to *Ayurveda, Shwasa roga* is a *Kaphavataja* disease which is originated from *Pittasthana*.[1] Whenever there is obstruction of *Pranavayu* by *Kapha Dosha*, the vitiated *Vayu* gets *Pratiloma* to produce *Shwasa Roga*.

The name of *Tamaka Shwasa* is due to the fact that, the symptoms or attack of this disease precipitates at night and also during the time of attack, the breathing difficulty is so severe that patient feels entering into the darkness (*Tama Pravesh*).[2]

According to *Ayurveda Kha Vaigunya* in *Pranavaha Srotasa (*Mainly By the *Vata Dosha)* is the seed for the development of *Tamaka Shwasa*. The acute attack of disease appears whenever there is obstruction of normal passage of *Pranavayu*. Once the obstruction is removed and *Vayu* starts travelling in its normal path, most of the symptoms (Dyspnoea, Cough etc.) of *Tamaka Shwasa* are abolished.

Need and significance of Present Research work

Bronchial asthma is very burning issue for current health research and management system. According to the WHO by the year 2020 Asthma along with Chronic Obstructive Pulmonary Disease will become the third leading cause of death. As stated by WHO 100–150 million of global populations are suffering from Bronchial Asthma, out of which 1/10th are Indians and the prevalence of Asthma is increasing everywhere. Current estimates suggest that 300 million people worldwide suffer from Asthma and an additional 100 million may be diagnosed with Asthma by 2025.

Along with this wide range of side effects, allopathic drugs do not cure the patients permanently. Whenever a patient comes in contact with a particular allergen he or she develops the disease again and an episode of acute attack of Bronchial Asthma is precipitated.

Since the management of Bronchial Asthma with allopathic medicine is purely temporary and at times associated with serious toxic effects therefore considering the demand of society and taking the responsibility it was decided, to introduce and evaluate the concept of Herbal Nebulizer for management of Bronchial Asthma.

Medicines are given in asthma person

though systemic route (Oral) and these are effective but Bronchial asthma is a palliative disease so long spell and dose of treatment is required. Medicinal requirement is not fulfilled by systemic route so there is need to change the route to administer the drug at the site of pathology i.e. Lungs; this provide advantage like less dose needed; least systemic absorption and the highest surface area for absorption. This drug delivery method arrived under the name of inhalation therapy and its origin date back to the name of *Dhumapana* in *Ayurveda* in which fumes of drugs are inhaled for required duration and with multiple frequency based on disease severity.

So *Ayurvedic* drugs having volatile oils, bronchodilator, anti-inflammatory, and anti-allergic, effect can be used in *Tamaka Shwasa* to evaluate their clinical efficacy as Herbal Nebulizer. The water soluble extract of herbal drugs having above properties can be used for this purpose. The drugs will be administered through nasal route in the form of aerosol with the help of Nebulizer machine.

Ayurvedic view of *Tamak Shwasa* (Bronchial Asthma)

The features of bronchial asthma are quite comparable with the disease "*Tamak-Swasa*" described in *Ayurveda*. In fact *Shwasa* is a major clinical condition according to *Ayurveda* that includes classes & sub-classes in it, and its symptoms can closely resembles with chronic obstructive pulmonary disease situation.

Ayurveda describes etiology & pathogenesis of all classes of *swasa* including *tamak-swasa* (bronchial asthma) almost similar with just little difference. However, the treatment modalities described are specific with class to class & sub-class

***Etiology of Tamak Shwasa* (Bronchial Asthma):**

The fundamental constituents that constitute living body & its total physiological aspects are considered as *vata, pitta & kapha* (collectively referred as *dosha*) and imbalance to their existing proportion is responsible for provoking any disease according to *Ayurveda*. Thus disease is regarded as just state of *dosha* imbalance. The disease then can manifest variably as symptoms, according to etiology & pathogenesis it follows

1. Exposure to dust, smoke & wind constitute airborne pollen.
2. Residing in cold place.
3. Stress that may induced by exercise (particularly in cold Climate) or by sexual intercourse.
4. Habitual intake of some edible oils.
5. Constipation associated with flatulence.
6. Dryness particularly lower respiratory & upper G.I.T. region due to non-unctuous food.
7. Excess fasting or excess intake of food & agitated Digestion resulted from it.
8. as consequences of some disease

Concept of Nebulization in Ayurveda

In modern science nebulization is the therapy mainly for the respiratory diseases like bronchial asthma, COPD etc. In *Ayurveda* Proper nebulization theraphy has been not explained but the process of *Doompana*, *Dhoopan* and *Nasya* are may be similar in some extent.

Dhoopana has been followed as a tradition in various religious procedures not only in India all over the globe in various religions like, christianity, muslims, Zoroastrians etc from the period of BC era. This tradition is based on sound scientific preventive public health principle.

According to *Charaka* after *Vamana Karma* if vitiated *Doshas* remain stick to *Srotas* at that time *Dhoompan* has been done for proper elimination of *Doshas*.[3] *Charaka* explained many drugs for *Dhoompana* as; *Manashil, Deodaru, Haridra, Hartal, Jatamansi, Agar, Guggulu* etc.[4]

Manashiladi Dhoompana is widely use for other respiratory diseases like *Kasa*(Cough).[5] *Acharya Sushruta* also explained the use the drugs like Laksha, *Eaanda, Manashil, Deodaru* for *Dhoompana in Urdhvajatrugata Roga*.[6]

In *Ayurveda* nasal route is used as route of drug administration in *Nasya Karma* for *Panchakarma* therapy.[7-8]

The *Nasya* of *Lashuna* (allium sativa)

Swarasa and milk mixed with *Chandan*a(santalum album) has been advised in acute stage of *Tamak Shwasa*.

Nebulization can be correlated with *Avapidaka Nasya* in which *Swarasa* or *Kalka-rasa* are given through nasal route.[7] *Acharya Charaka* mention so many herbal formulations like powder, paste, ointment etc. for nasal application

Pradhmana Nasya can be correlated with aerosol of nebulizer drug. In *Pradhamana Nasya* fine powder form of medicinal drug is snuff in to nostril of the patient with the help of pipe.

In *Avapidaka Nasya* drug is administered in the form of solution (liquid) whereas in *Pradhamana Nasya* drug is given in solid form. According to above description we come to know that nebulization therapy was already explained in our *Ayurvedic* classics.

According to *Sushruta, Avapidaka Nasya* and *Pradhmana Nasya* are the part of *Shirovirechan Nasya*.[8] Whereas according to *Charaka, Avapidaka Nasya* having two type *Shodhan* and *Stambhan Nasya*. *Acharya* explained use of *Kashaya Skandh* drugs like Shirisha*, Bharangi, Pushkaramoola* for *Stambhan Nasya* etc.[9] Thus inhalation therapy is not new for *Ayurveda,* as from very ancient time *Ayurveda* are using this route of drug administration in various diseases.

Route Of Drug Administration[10]

Route of drug administration is mainly divided in 2 types.

Oral – the most convenient and most commonly used route of administration deal with the GI tract. Oral, Buccal.

Parenteral - any route of administration other than the oral route dont deal with the GI tract. IV, SC, IM, Inhalation.

Selection of Route is determined by:

The physical characteristics of the drug, the speed which the drug is absorbed and/ or released the need to bypass hepatic metabolism to achieve high concentration at particular sites Accuracy of dosage and Condition of the patient

Route for administration -Time of effect

Ingestion 30-90 Minutes, Inhalation 2-3 minutes, Endotracheal 2-3 minutes, Intraosseous 30-60 seconds, Sublingual 3-5 minutes, Intramuscular 10-20 minutes, Subcutaneous 15-30 minutes, Rectal 5-30 min., Intravenous 30-60 seconds, Transdermal (topical) Variable (minutes to hours).[11-12]

Nasal drug delivery Advantages[13]

The nasal cavity is covered by a thin mucosa which is well vascularised. Therefore, a drug molecule can be transferred quickly across the single epithelial cell layer directly to the systemic blood circulation without first-pass hepatic and intestinal metabolism. The effect is often reached within 5 min for smaller drug molecules. Nasal administration can therefore be used as an alternative to oral administration of for example tablets and capsules if a fast effect is desired or if the drug is extensively degraded in the gut or liver. Drug which shows poor absorbtivity can be given by this route.

Local therapeutic effects, not well absorbed into the deeper layers of the skin or mucous membrane, lower risk of side effects, Transdermal route offers steady level of drug in the system.

Inhalation deliver very small amounts of the medicine directly in the air way. The dose in this form is reduced to about 1/50th the dose delivered by tablet or injection thus the action of medicine is faster and there are no general side effects.[14]

Nasal drug delivery Disadvantages[15]

Nasal administration is primarily suitable for potent drugs since only a limited volume can be sprayed into the nasal cavity. Drugs for continuous and frequent administration may be less suitable because of the risk of harmful long term effects on the nasal epithelium. Nasal administration has also been associated with a high variability in the amount of drug absorbed. Upper airway infections may increase the variability as may the extent of sensory irritation of the nasal mucosa, differences in the amount of liquid spray that is swallowed and not kept in the nasal cavity and differences in the spray actuation process. However, the variability in the amount absorbed after nasal administration should be comparable to that after oral administration.

The aerosol goes only where the inspired air goes and does not reach blocked area of lung, but Bioavailability of inhalation drug is 100%.

Oral drug delivery Advantages

Convenient - can be self- administered, pain free, easy to take, Absorption - takes place along the whole length of the GI tract , Cheap - compared to most other parenteral routes ,Convenient (storage, portability, pre measured dose), economical, non invasive often safer route, requires no special training.

Oral drug delivery Disadvantages[16]

Sometimes inefficient - only part of the drug may be absorbed irritation to gastric mucosa - nausea and vomiting, drug delivery is usually incomplete. Highly dependent on patient compliance, increased drug to drug, and drug to food interactions. Drugs are exposed to first pass effect, destruction of drugs by gastric acid and digestive juices , effect too slow for emergencies , unpleasant taste of some drugs , unable to use in unconscious patient,

First-pass Effect -The first-pass effect is the term used for the hepatic metabolism of a pharmacological agent when it is absorbed from the gut and delivered to the liver via the portal circulation. The greater the first-pass effect, the less the agent will reach the systemic circulation when the agent is administered orally.

Inhalation

Inhalation is one of the noval routes for the administration of drug especially when it is intended for the management of respiratory disorders. However, this route is as old *as Ayurveda*. *Jivaka* was the first in *Ayurveda* person who incorporate inhalation technique. *Acharya Charaka* (200 B.C) has also mentioned various *Vamaka Yogas* in which powder of drug had been inhaled. Asthma drugs are preferably inhaled, because this route minimized systemic absorption and thus, improves the ratio of the therapeutic benefit to the potential side-effects.[17] These medications used at the minimum dose and frequency required to maintain acceptable asthma control.

The respiratory tract, which includes the nasal mucosa, hypo pharynx, and large and small airway structures, provides a large mucosal surface for drug absorption. The nasal mucosa is the only location in the body that provides a direct connection between the central nervous system and the atmosphere. Drugs administered to the nasal mucosa rapidly traverse through the cribriform plate into the central nervous system.[18]

The generation of aerosol involves application of **Bernoulli Law**, which states that "if the Air is passed with high pressure though a narrow tube or a small pore in a container with liquid, it breaks liquid into the mist or smoke of fine particle size".

The term Aerosol has a specific meaning denoting a fine dispersion of liquid or solid particle in a gas where the particle size is in 5-50 µm in diameter looks as mist or smoke.

Inhaled drugs are primarily deposited in the tissues of the upper airway. Access to distal airways is a function of particle size. In humans, large particles (>4 ìm) and small particles (0.5 to 1.0 ìm) tend to deposit in the nasopharyngeal structures, whereas intermediate particles (1 to 4 ìm) reach distal airways. Water-soluble drugs tend to remain on the tissues of the upper airway and fat-soluble drugs are more likely to reach distal airways. Fat-soluble drugs are usually absorbed more rapidly than are water-soluble drugs. Inhalation – administration involves inhaling of a drug in gas or liquid form; drug is absorbed through alveoli of the lungs, e.g. nitrous oxide for general anesthesia, albuterol-bronchodilator.

Nebulization is a method of administering a drug by spraying it into the respiratory passages of the patient. The medication may be given with or without oxygen to help carry it into the lungs. It is the process of medication administration via inhalation. It utilizes a nebulizer which transports medications to the lungs by means of mist inhalation.[19]

Nebulizers are used to convert liquids into aerosols of a size that can be inhaled into the lower respiratory tract. The process of pneumatically converting a bulk liquid into small droplets is called atomization.[20]

Madhur Vipaka Kapha-Vata Shamaka and contain volatile oils can be use in Nebulization therapy.[22] *Ushna Virya* increases the basal metabolic rate, oxygen consumption and accelerates the breakdown of fat at mitochondrial level.[23] According to *Acharya vagbhata, Ushna Virya* helps in pacifying *Kapha* and *Vata*. Raised metabolic rate helps in fast destruction of cell debris and clearing the micro channels. As the micro channels are cleared the *Vata* become *Anuloma,* due to this *Samprapti Vighatana* can be occur.[24]

There are so many herbal Drugs like *Dhatura, Apamarga, Madhuyashti, Shirish, Pushkarmool, Haritaki, Vidanga, Maricha, Pippali* etc. having Bronchodilator, Anti-asthmatic, Anti-inflammatory, Anti-allergic, Analgesic and Anti-oxidant Activity which can be used in the form of herbal nebulizer for the management of *Tamak Shwasa*(Bronchial Asthma).

Dhatura

❒ The aqueous extract of the plant consider as the natural source of antioxidantsand phytochemical quality for antimicrobial effectiveness

Apamarga

❒ The water soluble alkaloid achyranthine was screened for its anti-inflammatory activity against carrageen-induced foot oedema, granuloma pouch, formalin-induced arthritis and adjuvant arthritis in rats. (Neogi et al., 1996).

❒ A pilot study was carried out at the Central Research Institute for Siddha in Madras on 15 cases of bronchial asthma. The oil obtained from the root soaked in cows urine was smeared on betel leaf and administered thrice a day to these patients. In most of the cases symptoms like wheezing, gasping, dyspnea, sneezing and cough disappeared. A fall in the TLC count and Eosinophil counts and ESR was observed (Suresh et al., 1985).

Madhuyashti

❒ Glycyrrhizin is reported to exhibit some antiallergic activity. (Fisher[25] et al,1996).

❒ Scientific studies shown that when glycyrihzin was administered to animal, have shown to inhibit experimentally induced allergenic reactions. (Murray M.T., et. al, 1995.

❒ *Glycyrrhizaglabra* (10 mg/kg/ body wt.) was fed to sensitized mice and measeared ova-inducedEAR(early airway response) and LAR(late airway response). At the end of experiment, the animals were sacrified and measured OVA specific serum IgE levels. The feeding of glycyrrhizaglabra inhibited significantly both EAR as well as LAR as compared to vehicle treated sensitized mice (NSL, New Delhi. 2002).

❒ *Glycrrhiza* exhibits expectorant action.This action is produced due to a reflex expectorant action from the GIT mediated by embryonic neural link between membranes of GIT and respiratory track.. (Wohmulth H,et.al,1998)

❒ *Glycrrhiza* and its derivatives have an antitussive effect similar to codeine. (MediherbNewsletter ,1989)

❒ *Glycrrhiza* and its derivatives exent an anti-inflammatory action. (Fisher et al M1996)

❒ Intraperitoneal treatment was found to enhance total white blood cells (WBC) count. Maximum total WBC count was increased to 114.9-18%. It remarkably inhibited delayed type hypersensitivity reaction. The results indicate immunomudulatory activity of Glygrrhizic acid. (RaphealT.J.,et.al, 2003)

Shirisha

❒ The docoction of *Shirish* (*Albizzialeb beck*) stem bark was found to be effective against bronchospasm induced by histaminic acid phosphate and shown to exert di-sodium cromoglycate like action on mast cells. A considerable fall of TLC and increase in the level of PEFR were observed. Swamy, G.K et.al, 2000).

❒ The hot aqueous decoction (DO81) and its butanolic fraction (FO82) were used to study the anti allergenic activity in various models like anti PCA and mast cell stabilizing activity. (Brauca, C.G et.al,2000-2001)

❒ Aqueous extract of both stem bark and flowers significantly reduced bronchospasm induced by micro-aerosols of histamine acid phosphate (1% solution) and acetycholine chloride (1% solution in

guinea pig bronchi).(Annual report,CCRAS 1975-80).

Pushkarmula

❒ Anti-inflammatory activity of sesquiterpenoidsilicic acid and inuviscolide, isolated from *Inula viscosa* was examined on cell degranulation, leukoterine biosynthesis, neurogenic drive and glucocorticoid like interaction. The action was potent. (Hermandez, et.al, 2001).

❒ Alcoholic extract of root of *Inularacemosa* was studied for its anti allergic effect in 10 experimental models to type I hypersensitivity, in albino rats. The results suggest that *Inularacemosa* possesses potent anti-allergic properties in rats. (Srivastavaet. al,1999)

Haritaki

❒ Aqueous extract of *Terminalia chebula* was tested for potentialanti-oxidant activity by examining its ability to inhibit gamma radiation induced lipid peroxidation in rat. (Naik GH. et al, 2004).

❒ The fruit is having laxative property due to a glycoside, which may be similar to sennoside A. (Patel et al, 1956).

Vidanga

❒ In view of the therapeutic use of Embeliaribesin Bronchial Asthma by *Ayurvedic* physicians, studies have been carried out on the mechanism of its anti allergic effects, as milk extract effectively reduced passive cutaneous anaphlylaxis in rats and protected guinea pigs against antigen induced bronchospasm. (Dahanukar, S. A., et al. 1984).

❒ The fruits of *Vidanga* are attributed with numerous medicinal uses, and may be used for diseases of respiratory tract viz., bronchitis, asthma (The Wealth of Asia, C.S.I.R., New Delhi 1996.

Maricha

❒ *Maricha* (Piper nigrum) Acts as a powerful anti convulsant and natural anti inflammation agent. Taken over a period of time it builds strong immunity against allergy. (International org for standardization (ISO) 9002).

Pippali

❒ Long pepper was found to significantly decrease the frequency and severity of asthma attacks in a group of 20 asthmatic children, (Rege NN, et al. 1999).

❒ The fruits are attributed with numerous medicinal uses, and may be used for diseases of respiratory tract viz., bronchitis, asthma (The Wealth of Asia, C.S.I.R., New Delhi 1996).Milk extract has been found effective against antigen induced bronchospasm (Ram. P. Rastogi et.al, 1995).

❒ Piper longum used in traditional practice to promote respiratory health. It significantly benefits respiratory function and builds up resistance against respiratory tract constriction and inflammation. (International org for standardization (ISO) 9002).

❒ The substance having *Ushna Virya* are accountable for increasing the basal metabolic rate, oxygen consumption and accelerate the breakdown of fat at mitochondrial level (*Upadhyaya* et.al in 1979 at BHU, Varanasi).

Arka

❒ Flower of Calotropis procera is cytostatic, abortifacient, antimalarial,and used in asthma and piles.

❒ In small doses, powdered flowers of Calotropis gigantea are useful in the treatment of colds, coughs, asthma, catarrh, indigestion and loss of appetite.[26]

❒ *Arka pushpa churna* is very effective in bronchial asthma patients without any side effect.[27]

The alcoholic extract of the flowers of C. gigantea was reported for analgesic activity in chemical and thermal models in mice (Pathak AK, 2007).

Madhu-

❒ There was a significant increase of SPO2 and decrease of Respiratory Rate and Heart Rate 60 minutes after Bee Honey Nebulization. The dyspnoea improved in 94% of patients. The chest wheezes disappeared in 35% and decreased significantly in 31% of patients.[28]

❒ (Friday, October 12, 2007 Bee Honey Nebulization as a Non Traditional Treatment of Acute Bronchial Asthma in Infants and Children, Apitherapy news**)**

The herbal drugs having properties like above can be used as herbal nebulizer**.**

DISCUSSION

Management of Bronchial Asthma with allopathic medicine is purely temporary and associated with serious toxic effects. Whenever a patient comes in contact with a particular allergen he or she develops the disease again and an episode of acute attack of Bronchial Asthma is precipitated. Traditional system of medicine like *Ayurveda* can serve sufficient in this regard to find out safe, efficacious and benificial herbal management of *Tamak Shwasa*(Bronchial Asthma). In *Ayurveda* Proper Nebulization therapy has been not explained but the process of *Doompana*, *Dhoopan* and *Nasya* are may be similar in some extent. There are so many herbal drugs like *Manashil, Deodaru, Haridra, Hartal, Jatamansi, Agar, Chandana, Guggulu* etc. which were used for the purpose of inhalation therapy. Hundreds of herbal drugs are being screened at present for better therapeutic principles throughout world. But very less produce convincing answers for the use at clinical level. Herbal drugs which are *Katu, Tikta Rasaj, Ushna Virya,*[29] *Laghu-Tikshna-Ruksha Guna, Katu-Madhur Vipaka Kapha-Vata Shamaka* and containing volatile oils were used in *dhoompan dhoopan* and *nasya karma* therapy. Similarly we can use these drugs as herbal nebulizer in the management of *Tamak Shwasa* (Bronchial Asthma). There are so many herbal drugs having Bronchodilator, Anti-asthmatic, Anti-inflammatory, Anti-allergic, Analgesic and Anti-oxidant properties. These drugs are also used as herbal nebulizer for the management of *Tamak Shwasa*(Bronchial Asthma). Herbal Nebulizer can disseminate and encourage the Clinician to follow this method effectively and prevent *Tamak Shwasa*, allergic conditions, and many epidemic airs borne infective diseases. Herbal nebulizer use therapeutic procedure either alone or combined with certain *Ayurvedic* medications for the better management of *Tamak Shwasa* (Bronchial Asthma) in view of non availability of effective treatment modalities in the modern system of medicine.

CONCLUSION

1. This paper has been prepared with a sole aim of presenting the broad and new approach on routes of herbal drug administration in the management of *Tamak Shwasa*.
2. Here technique of nebulizer is in the form of aerosol through Nebulization apparatus has been discussed for herbal drugs.
3. An effort to manage acute asthma through herbal drugs can be given in the form of aerosol through herbal drugs mainly in condition where respiratory distress leads to loss of consciousness.
4. It is also an approach to expand the knowledge of *Ayurveda* with the help of available modern techniques.
5. Yet lot of work has to be done for standardization of drug, understanding its mode of action through pharmacological studies.
6. Few of these scientific studies have already been done by the researchers but accuracy and effectiveness of which are yet to be interpreted.
7. This work only gives the glimpse of concept of inhalation therapy described in *Ayurvedic* classics and newer concept of drug administration route i.e. through Nebulization.
8. A phenomenal work is needed for better and precise way of converting herbal drugs in form suitable for inhalation therapy for *Tamak Shwasa*..

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Case Report

An *Ayurvedic* Approach In The Management Of Ascites (Alcoholic Liver Disease): A Case Study

*Dr. Sukumar Nandigoudar, **Dr. Pradnya B Patil, ***Dr. Rashmi Patil, ****Dr. Kiran Mutnali

Abstract

Liver cirrhosis is a diffuse process of fibrosis that converts liver architecture into structurally abnormal nodules.The commonest causes of cirrhosis worldwide are alcohol abuse and viral hepatitis. In India alcohol abuse accounts for more than 50 % of cases while Hepatitis B accounts for 30-70% and Hepatitis C following the frequency.[1] The major manifestation in cirrhosis are features of hepatocellular failure and portal hypertension viz., jaundice, ascites, encephalopathy and gastrointestinal bleeding. Jaundice is usually due to failure of hepatocytes to excrete bilirubin resulting into conjugated hyper bilirubinemia. Ascites is accumulation of fluid in the peritoneal cavity. It is sequel of portal hypertension along with decreased serum albumin level due to low functional hepatocyte mass.

A 35 years middle aged male patient presents with complaints of anorexia since 1 month, abdominal pain since 20 days, yellowish discoloration of eyes and urinesince 8 days, vomiting and loose stools, drowsinessand excessive sleep since 8 days to KLE Ayurveda Hospital, Belagavi. On examination icterus was noted withfine tremors in hands, drowsiness, abdominal distension and tenderness in both hypochondrium and epigastric region. On biochemical evaluation, elevated liver enzymes were recorded.Ultrasound imaging showedliver cirrhosis,splenomegaly, portal hypertension and mild to moderate ascites.

According to history, laboratory and radiological investigations the case was diagnosed as Liver Cirrhosis with ascites and splenomegaly. As per Ayurvedic classics this condition can be very well correlated with *Yakrddalyudarawith Jalodara* and pleehodara. *Jalodara* develops due to variedetiologies related to food, drinks and activities such as consuming excess ushna, *vidahi, lavana,* ksharaetc foods, continuous and excess use of alcohol etc. It also may manifest secondary to diverse primary diseases that includes *Yakrddalyudara*. As per *Acharya Charaka*, choice of treatment in this condition is *Nitya Virechana* (regular & instant cleansing therapy to eliminate dosafrom *kostha*), *Agnidipana* (herbs that enhance the appetite and improve digestion). Same treatment principles have been followed in treating this patient and appreciable results were observed in the form of reduction of abdominal girth, pedal edema along with improvement in appetite and strength.

Keywords: *Jalodaraa,Yakrddalyudara, pleehodaraa, Nitya Virechana, Ascites, Cirrhosis*

सारांश–

आजकल कि जीवन शैली में लीवर सिरोसिस एक विक्षिप्त प्रक्रिया है जिसमें यकृत् की प्राकृतिक संरचना बदलते हुए ग्रन्थियों की उत्पत्ति होकर लीवर फैब्रोज होते जाता है। विश्वभर में इसका सामान्य निदान मद्यपान एवं वाइरल हैपाटाइटिस है। भारत में मद्यपान के कारण 50 प्रतिशत लीयर सिरोरिस् पाया जाता है। जबकि हैपाटाईटिस बी एवं सी संक्रमण के कारण 30–70 प्रतिशत लोग लीवर सिरोसिस से प्रभावित होते है। जब हैपटोसैट्स अपना कार्य करना बन्द कर देते है तो बिलिरूबिन

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शरीर से बाहर हीं जा पाता, जिससे कोन्जुगेटेड़ बिलिरूबिन की मात्रा बढ़ने लगता है। इस रोग का मुख्य लक्षण कामला, जलोदर, एनसिफ्यालोपैथि एवं आहार नलिका एवं आन्त्र से रक्तस्राव होता है। अन्त में उपद्रव रूप के तौर पर इस रोग में हेपाटोसेल्युलर फैल्युवर और पोर्टल हाइपरटेन्शन उत्पन्न होता है। जलोदर में मुख्यत: द्रवपदार्थ का उदरावरण कला में इकट्ठा होने से होता है।

एक पुरुष जिसकी उम्र 35 साल है वो के.एल.इ. आयुर्वेद अस्पताल निम्न लिखित लक्षणों के साथ आया था–1 महिने से भूख न लगना, पेट में 20 दिन से दर्द, मूत्र और नेत्र पीतता 8 दिन से, उल्टी, जुलाब, थकावट और अत्यधिक नीन्द 8 दिन से था। स्पर्शन परीक्षा के दौरान मरीज को उदर में दर्द महसूस हुआ। बायोकेमिकल जाँच से पता चला की लीवर एन्जैम्स में वृद्धि और अल्ट्रासाउण्ड जाँच से लीवर सिरोसिर एवं प्लीहावृद्धि, पेर्टल हैपरटेन्शन और जलोदर का ज्ञात हुआ।

व्याधि वृत्तान्त, प्रयोगशाला परीक्षा एवं विकिरण परीक्षा के द्वारा यह ज्ञात हुआ कि इस व्याधि लीवर सिरोसिर के साथ–साथ जलोदर एवं प्लीहा वृद्धि थी।

आयुर्वेद में इस व्याधि को यकृत्तोदर के साथ जलोदर एवं प्लीहोदर व्याधि समझा जा सकता है। अन्यन्त उष्ण विदाहि, लवण क्षारादि और अत्यधिक एवं लगातार मद्यपान के कारण वश जलोदर की उत्पत्ति होती है।

आचार्य चरकानुसार इस व्याधि को प्रमुख चिकित्सा सिद्धान्त है, नित्यविरेचन एवं अग्निदीपन है। इन्हीं चिकित्सा सिद्धान्तों का उपयोग इस रोगी की चिकित्सा में उपयोग किया जिससे सकारात्मक परिणामों की प्राप्ति हुई, जैसे कि उदर परिधि में और पैरों की शोथ में कमी, प्रयोगशाला परीक्षा में लीवर एन्जैम्स की साम्यता एवं बल, अग्नि की वृद्धि।

Case Report

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Introduction

Liver cirrhosis is a diffuse process of fibrosis that converts liver architecture into structurally abnormal nodules. The commonest causes of cirrhosis worldwide are alcohol abuse and viral hepatitis. In India alcohol abuse accounts for 50 %of cases,Hepatitis B for 30-70% of cases and Hepatitis C following the frequency.[1] About one third of patients of cirrhosis are asymptomatic as 10% of liver cell mass can maintain metabolic function and due to unique regenerative propertyliver cell has.[2] The major manifestation in cirrhosis are features of hepatocellular failure and portal hypertension viz., jaundice, ascites, encephalopathy and gastrointestinal bleeding. The liver plays vital role in the synthesis of protein albumin mainly, detoxification and storage of vitamin A.[2] Jaundice is usually due to failure of hepatocytes to excrete bilirubin resulting into conjugated hyper bilirubinemia. The normal parenchyma of the liver is replaced by scar tissue in the cirrhosis thereby increasing resistance to blood flow and higher pressure in portal venous system finally resulting in portal hypertension.[3] Ascites is accumulation of fluid in the peritoneal cavity which is sequel of portal hypertension.[1] Portal hypertension plays important role in development of ascites by rising capillary hydrostatic pressure within the splenic bed.[3] This hypoalbuminemia leads to accumulation of fluid via decrease in oncotic pressure of the capillaries and portal hypertension causes congestion of the blood in spleen due to abnormal flow mechanism leading to splenomegaly with caput medusa.

The underlying cause is usually detected by detailed history taking, blood tests, abdominal ultrasonography and analysis of aspirated ascitic fluid. The management of ascites in contemporary science is by adopting medications usually diuretics, paracentesis and other medications depending upon the cause.

In Ayurveda *Jalodara*[4] *is described as a condition characterized by accumu*lation of fluid in the udara. Jalodara manifests secondarily to various primary diseases that includes *yakrddalyudara*.[5] It develops due to various causes like consumption of excessive *ushna*(hot), *lavana*(salt), *ksara*(alkali), *vidahi* (improperly baked foods that causes burning sensation during digestion), *amla*(sour), *ruksa* (dry), *virudda ahara*(incompatible foods) etc. leading to *udararoga* in persons withmandagni (decreased digestive power).[6] The provoked *Pitta* along aggravated *Kapha* and *Vata Dosa* obstructs the *Udakavaha* and *Swedavaha Srotas* there by drawing all the fluid into the *udara* from its *sthana* by *upasnehanyaya* (osmosis and altered capillary pressure) leading to accumulation of fluid in udara.[7] As per *Acharya Charaka*, choice of treatment is *Nitya Virechana*, *Agnidipana*. *Acharya Sushruta* recommends surgical intervention in the management of *Jalodara*.[8]

Case Summary

History

A 35 years middle aged male patient approached KLE Ayurveda Hospital, Belagavi with complaints of anorexia since 1 month, abdominal pain since 20 days, yellowish discoloration of eyes and urine since 8 days, vomiting and loose stool, drowsiness and excessive sleep since 8 days. With the personal history of vegetarian diet and daily intake of 400 ml alcohol from last 15 years and abstinence since 8 days and also having history of tobacco chewing since 15 years. The patient was nonhypertensive but had history of Type II Diabetes Mellitus since 2 years without anymedication.

Examination

General examination reveals icterus, fine tremors inhands, drowsinessand bilateral pitting pedal edema. On inspection, abdomen was distended with smooth and glossyskin and transverse umbilicus.

On palpation, tendernesswas noticed in both hypochondrium and epigastric region. On percussion, fluid thrill, shifting dullness and horse shoe dullness was present. USG abdomen revealed cirrhosis of liver, splenomegaly with portal hypertension, mild to moderate ascites. Liver function tests presented with elevated liver enzymes.

Diagnosis

Thus the patient was diagnosed as cirrhosis of liver along with complications like portal hypertension,splenomegalyandhemorrhoids. As per Ayurvedic classics this condition can be correlated with *jalodara, Yakrddalyudara and pleehodara types of udara roga.*

Treatment

Sarvanga Abhyanga with *Balashwagandhadi Taila* followed by *Baspa Sweda* along with shamana medications *Bhunimbadi kasayaand Guduci, Bhrnagaraja, Punarnava swarasa* (Table No.1) was advised for 5 days. From 6th day onwards internally Tab *Tapyadi Loha, Patolakaturohinyadi kasaya, Kalamegha* Strong were administered for 8 days where as Tab Arogyavardhiniwas advised since day 1 till discharge of the patient for 13 days.

Table No.1 *Shamana* medicines administered during 1st course of treatment.

S.No	Medicine	Dosage	Duration
1.	*Bhunimbadi Kasaya*	*10 ml BD*	*5 days*
2.	*Guduchi, Bhrnagaraja, Punarnava Swarasa*	*50 ml BD*	*5 days*
3.	*Tab Tapyadi Loha*	*1 BD*	*Next 8 days*
4.	*Patolakaturohinyadi Kasaya*	*15 ml empty stomach*	*Next 8 days*
5.	*Kalamegha Strong*	*15 ml HS*	*Next 8 days*
6.	Tab *Arogyavardhini*	*1 BD*	*13 days*

After 7 days of admission, *nityavirechana* with *goarka 50ml* with *Haritakicurna* 10gms and milk 50 ml on empty stomach was given for 10 days. *Mudgamalakayush* was advised as diet.

The observations the abdominal measurements and Liver Function Tests during and after the first course of treatment are mentioned in Table. No 2 and 3 respectively.

Table No.2 Observations of abdominal measurements during 1st course of treatment.

Date	At umbilicus	1"above umbilicus	1"below umbilicus	Xpisternum to umbilicus	Umbilicus to pubic symphysis
31/1/15	80.5 cms	82 cms	79 cms	20 cms	12 cms
7/2/15	77.5 cms	78 cms	76 cms	18.5cms	12cms
12/2/15	76.5cms	77 cms	75cms	18cms	11.5 cms

Table No.3 Liver Function Tests

Liver function test	Before treatment(22/1/15)	After treatment(10/2/15)
Total bilirubin	8.97 mg/dl	7.4 mg/dl
Direct bilirubin	6.12 mg/dl	5.8 mg/dl
Indirect bilirubin	2.85 mg/dl	1.6 mg/dl
SGPT	167.60 IU/L	50 IU/L
SGOT	195.30 IU/L	98 IU/L
Alkaline phosphatase	297 U/L	247 U/L

Discussion

According to *Ayurveda the Yakrddalyodara* and *Pleehodara* falls under *Udara Roga*. The word *Yakrddalyodarameans* enlarged liver which is palpable during early stages of Liver cirrhosis. As the condition progresses, the liver shrinks in its size and cannot be palpated in advanced stage of Liver Cirrhosis that is usually associate with sequels of ascites, correlated to the *avastha* of *Jalodara*. These two conditions have same etiopathogenesis and management[9]. Probably they are interrelated with portal venous system. The *Nidana Sevana* leads to vitiation of *Pitta* and *Kapha*, vitiation of *dushya* like *Rasa* and *Rakta* which in turn leads to accumulation of toxins in liver.[10] Liver and spleen being the *moola* of *Raktavaha srotas*, there is deposition of toxins by vitiated *Rakta dhatu*.[11] When the *Kapha* blocks the vitiated *Rakta* in the spleen it produces enlargement of spleen. Thus hyperactive spleen results in derangement of blood profile leading to diseases like *Pandu, Kamala*.[12] Persistent vitiation of *Dosa* goes to the skin where it get obstructed by *Vata Dosa* producing *Shotha*.[13] The treatment principle of *Udararoga* is *Nitya Virechanaand dipanachikitsa*. As the patient is diagnosed with *Yakrddalyodara* leading to *Jalodara* so the following treatment is adopted.

As patient was much irritant, having sleep disturbance, to stabilize the patient and to minimize alcohol withdrawal symptoms, ***sarvanga abhyanga was advised.***

Nityavirechana was planned to evacuate the samcita *dosa* (accumulated toxins) and it also helps in correcting portal hypertension. As the patient possessed MadhyamaBala, VatapittaPrakruti, Madhyama Satva, Haritaki Curna, milk and Goarka was selected for Nitya virechana. As in this patient bilateral pitting pedal edema was present due to Kapha, where more *Rukshana Chikitsa* is needed hence Haritaki and Goarkawas selected. Liver cirrhosis patients always have risk of complications like rupture of oesophagealvarices and haemorridal veins. Hence to avoid this, milk is addedto reduce the teekshnata of Goarka and it also has action of Virechanopaga.

Arogyavardhinivati contains *Katuki* as main ingredient which does Bhedana that helps to eliminate toxinsout of the body. It alsopossesses hepatoprotective activity.[14] Tyapyadi Loha was advised as patient was anemic and had per rectal bleeding. Guduci, **Punarnava, Bhrnagaraja Swarasawas advised because Guduci pacifies vitiated dosasin addition to having Rasayana effect.[15] Guduci also has hepatoprotective activity especially in chronic liver damage, it prevents the fibrous changes and promotes regeneration of parenchymal tissue.[16] Punarnava is advised to manage *Shotha* and *Pandu*.[17] It has proven hepatoprotective[18] activity, helps to decrease albuminuria and increases serum protein.[19] *Bhrnagaraja* is said to have hepato protective effect against toxic hepatic injury[20] and is indicated in Kaphaja *Shotha* and *Pandu*.[21]**

Milk is administered as diet as it provides strength to the patientis *Snigdha Virechaka* and is source of protein. *Mudgaamalakayusais* indicated because *Mudga* is rich source of proteins and light for digestion hence maintains nourishment of the body and also reduces depletion of albumin. *Amalaki* has hepatoprotective activity[22]and helps in elevating the serum protein level.[23]

During admission, after administration of the *Nitya Virechana Dravya* the patient had average of 3-8 times vega's daily. Gradually the appetite improved with reduction in abdominal girth and pedal edema. Liver parameters showed marked improvement after treatment.

At the time of discharge, patient was conscious, general health improved, appetite improved, icterus slightly reduced, pedal edema completely reduced, urine color changed from dark yellow to light yellow, urine output increased, abdominal girth reduced from 80 cms to 77 cms at umbilicus, SGOT & SGPT levels reduced. Patient was discharged with internal medications *Trivrut Lehya* 10 gms with milk once in 5 days on empty stomach early morning, Tab *Arogyavardhini Rasa* 1 BD, *Patolakatukrohinyadi Kashaya* 15ml BD with 30ml warm water for one month.

After discharge patient was healthy for a period of 4 months. Again he resorted to alcohol consumption and developed complications like esophageal varices, bleeding per rectum, features of

hepatic coma, anuria etc for which he got admitted in well known hospital in Miraj and was treated for a period of 20 days but condition worsened and again came to KLE Ayurveda Hospital, Belagavi for second course of treatment. During this course of treatment, *Nityavirechana with Haritaki Curna 10gms along with 50ml milk for 15 days and Mudga Yusa as a diet was recommended.*

During second course of admission and treatment internally Tab *Arogyavardhini, Tab Punarnava mandura, Guduci, Punarnava, Vasa Swarasa, sarapunkha mula Kalka, Rohitakarista,* Tab *Murvadi agada, Gairika Bhasma* were administered as per *avastha* of the patient considering *roga bala, prakriti* etc as depicted in Table. No 4.

Table No.4 *Shamana* medicines administered during 2nd course of treatment.

S.No	Medicine	Dosage	Anupana	Days
1.	Tab *Arogyavardhini*	1 BD	Water	16 days
2.	Tab *Punarnava mandura*	1 BD	Water	16 days
3.	*Guduci, Punarnava, Vasa Swarasa*	50ml BD	-	16 days
4.	*Sarapunkha mula Kalka*	5gms OD	Buttermilk	From 2nd to 16th day (14 days)
5.	*Rohitakarista*	15ml BD	Water	From 2nd to 16th day (14 days)
6.	Tab *Murvadi agada*	*1 BD*	Water	From *3rd* to *16th* day (13 days)
7.	*Gairika Bhasma*	*250mg BD*	Honey	From *7th* to *16th* day (10 days)

The observations the abdominal measurements during and after the second course of treatment are mentioned in Table.No 5.

Table No.5 Observations of abdominal measurements during 2nd course of treatment.

Date	At umbilicus	1"above umbilicus	1"below umbilicus	Xpisternum to umbilicus	Umbilicus to pubic symphysis
24/6/15	87cms	88cms	85.2cms	22cms	13cms
29/6/15	82cms	87cms	84cms	21cms	13cms
6/7/15	82cms	84cms	78cms	20.3cms	13cms
10/7/15	71cms	76cms	71cms	20.3cms	12.5cms

The status of patient after 2nd course of treatment was, ascites got reduced, pedal edema completely reduced, bowel got clear, mild icterus was present, appetite improved, abdominal pain reduced, splenomegaly reduced,bleeding per rectum completely reduced. The following medicines were advised on discharge, Tab *ArogyavardhiniRasa1BD, Tab Punarnavamandura1BD, GairikaBhasma250mg with honey BD, Tab Nirocil 1BD and Swamla Compound ½ tsf BD.*

Conclusion

Liver Cirrhosis and its complications can beconsidered as *yarddalyudaraleading further to Jalodarain Ayurveda. Modern science offers liver transplant as most effective option which is very expensive.In classics, the prognosis ofudara is krucchrasadhya. All varieties of udararogaend in jalodara which is often managed by surgical intervention. Ayurveda treatment can yield good outcome without surgical intervention after knowing the vyadhi avasthaprecisely. Nityavirechana is indicated in such conditions to expel the accumulated vitiated dosa from body.*

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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.

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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.

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Reviewers' comments will be sent to other reviewers of the same manuscript, which helps reviewers learn from the review process, and reviewers may be notified of the editor's decision.

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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.

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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.

The second type of difficulty is scientific fraud. If substantial doubts arise about the honesty or integrity of work, either submitted or published, it is the editor's responsibility to ensure that the question is appropriately pursued, usually by the authors' sponsoring institution. However, it is not ordinarily the task of editors to conduct a full investigation or to make a determination; that responsibility lies with the institution where the work was done or with the funding agency. The editor should be promptly informed of the final decision, and if a fraudulent paper has been published, the journal will print a retraction. If this method of investigation does not result in a satisfactory conclusion, the editor may choose to conduct own investigation. As an alternative to retraction, the editor may choose to publish an expression of concern about aspects of the conduct or integrity of the work.

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.

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This journal does not wish to receive papers on work that has already been reported in large part in a published article or is contained in another paper that has been submitted or accepted for publication elsewhere, in print or in electronic media. This policy does not preclude the journal considering a paper that has been rejected by another journal, or a complete report that follows publication of a preliminary report, such as an abstract or poster displayed at a professional meeting. Nor does it prevent the journals considering a paper that has been presented at a scientific meeting but not published in full or that is being considered for publication in a proceedings or similar format.

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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]."

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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, Results, and Discussion. This so-called "IMRAD" structure is not simply an arbitrary publication format, but rather a direct reflection of the process of scientific discovery. Long articles may need subheadings within some sections (especially the Results and Discussion sections) to clarify their content. Other types of articles, such as case reports, reviews, and editorials, are likely to need other formats.

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.
3. The name of the department(s) and institution(s) to which the work should be attributed.
4. Disclaimers, if any.
5. Corresponding authors. The name, mailing address, telephone and fax numbers, and e-mail address of the author responsible for correspondence about the manuscript (the "corresponding author;" this author may or may not be the "guarantor" for the integrity of the study as a whole, if someone is identified in that role. The corresponding author should indicate clearly whether his or her e-mail address is to be published.
6. The name and address of the author to whom requests for reprints should be addressed.
7. Source(s) of support in the form of grants,

equipment, drugs, or all of these.

8. Word counts. A word count for the text only (excluding abstract, acknowledgments, figure legends, and references) allows editors and reviewers to assess whether the information contained in the paper warrants the amount of space devoted to it, and whether the submitted manuscript fits within the journal's word limits. A separate word count for the Abstract is also useful for the same reason.
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.
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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>

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 & Internal Seminars

1 National Conference on "Role of Biopharmaceuticals in achieving health by 2020" (NCRBH- 2k5), organized by Department of Biochemistry, Dr.N.G.P. Arts and Science College, Coimbatore.

Date : 10th and 11th July, 2015.

2. Pradurbhava - A National level Seminar on practical approach to PCOS, organized by Dept. Of Prasooti Tantra & Stri Roga, Shree Jagadaguru Gavisiddheshwara Ayurvedic Medical College & Hospital, Koppal, Karnataka. Date : 10th and 11th July, 2015.

3. National Workshop on Panchakarma 2015, organized by Institute for Post Graduate Teaching and Research in Ayurveda, Gujarat Ayurved University, Jamnagar. Date : 20th and 21st July, 2015.

4. SIDBI sponsered Training cum-demonstration program on "Economically Improved Technology of Medicinal and Aromatic Plants", organized by CSIR-CIMAP Lucknow. Date : 28th to 31st July, 2015.

5. Six days CME in Kriya-Sharir, organized by Tilak Ayurved Mahavidyalaya, Pune.

Date : 3rd to 8th August, 2015.

6. One day CME on Ayurveda Cosmetology, organized by Maharashtra University of Health Sciences, Nashik.

Date : 20th August, 2015.

7. National Conference On "Innovation in Alternative to Animal Experimentation from Drug Discovery to Drug Delivery", organized by AKS University, Satna, M.P. Date : 21st and 22nd August, 2015.

10. World Ayurvedic Expo 2015. Date : 26th August, 2015.

11. 8th SWANIRBHARA DIVASA "International Conference on Management of Disorders of Trimarma", organized by J.S.Ayurveda College, Nadiad.

Date : 1st and 2nd September, 2015.

12. 17th Asia Pacific League of Associations for Rheumatology Congress (APLAR 2015), organized by APLAR and Indian Rheumatology Association.

Date : 6th to 9th September, 2015.

13. National Symposium on Healthy Yoga Lifestyle - for Prevention of Lifestyle Diseases and CME on Role of Yoga, Nature, Nutrition & Meditation in Promotion of Holistic Health, organized by AROGYADHAM Mahatma Gandhi Institute of Medical Sciences, Maharashtra. Date : 10th and 11th September, 2015.

14. National Workshop on Pharmacognosy, organized by KLE University's Shri B M K Ayurveda Mahavidyalaya, Karnataka. Date : 10th to 12th September, 2015.

15. Fifth Euro-India International Conference on Holistic Medicine (ICHM-2015), organized by Institute for Holistic Medical Sciences(IHMS), Kerala.

Date : 11th to 13th September, 2015

16. 4th International Conference on Applied Life Sciences (ICALS 2015), organized by International Society for Applied Life Sciences (ISALS). Date : 15th to 17th September, 2015.

17. National Seminar on Endocrinology From Ayurvedic Prespective, organized by Pune District Education Association's, College of

*Senior Research Fellow-Journal of Ayurveda, NIA, Jaipur

Ayurved & Research Centre.
Date : 30th September, 2015.

Go the Ayurvedic way for better work-life balance

In our day-to-day life, hardly anything can be done to reduce the quantum of work we do, but, it is in our hands to decide how we can help our body to cope with it, and maintain our energy and vitality.

Ayurveda, the unique combination of science and values, implies that to lead a balanced and healthy life, there should be equilibrium and synchronization between our mental and physical energies, our constitutions and the five elements of nature. If we adapt and adopt these natural principles in our daily life, it is possible to realize the spiritual harmony and holistic wellness.

We divert ourselves from balanced state when we are over stressed and overworked, and tend overeating and thereby increasing our waistlines. Food and lifestyle play a huge role in maintaining our work-life balance. Getting back to basics and getting back to nature by living the Ayurveda lifestyle, may be the best way ahead.

Sleep well: Our body requires 6 to 8 hours of undisturbed sleep daily. More so, nothing can match a good night's sleep. Half-an-hour before bedtime, ensure that you stay away from all electronic gadgets including television, mobiles or laptops, and instead read your favourite book, or listen to soothing music for relaxation. Reserve late-night parties only for the weekends.

Begin your day with the right note: Having tea or coffee is the wrong beginning to start your day, as it makes your system acidic. Instead, start your day with an alkaline note. Early morning our body is very receptive to what we eat or drink and absorbs very fast. Hence, start your day with a glass of fresh vegetable juice or plain lime water (lukewarm) with a dash of honey added to it. If not all this, simply have a cup of chamomile or jasmine tea.

Warm-up: Make sure you do at least 30 minutes of exercise every day, including stretches, mobility exercise, walking, followed by yoga. Exercising in open is the best, as it will fill your lungs with oxygen, and soothe your eyes and freshen your mind. Do 'pranayam' to relax tired body and nerves.

Meditation: Set aside a few minutes every day for meditation. You can also consider this as the quality 'me' time which gives you inner peace and strength to face daily life stress. Meditate either in the morning or in the evening, or if time permits, twice a day. But, ensure that you choose a calm and quite place and time for meditation.

Food & water intake: Watch for food, as food is the fuel that keeps your body running. Fibre-rich cereals like oats, corn, barley, whole wheat, brown rice are the best. Include plant proteins like grams, lentils, and beans, apart from animal proteins. Avoid egg yolk and red meat if you have high cholesterol. Limit your daily fat intake, opting for baking or sautéing instead of frying. Use low fat cheese and other dairy products, and avoid trans-fats. Have whole fruits rather than fruit juices. Nuts are good too. Healthy nuts like almonds and walnuts can be consumed in minimal quantities.

Work stress or any kind of stress can lead to production of free radicals in the body, which can lead to degeneration, and premature ageing. To fight them, include foods like citrus fruits, apple and amla, broccoli, wheat grass juice, sprout, pumpkin, carrots and soy. Also, keep sugar and salt to minimum. To meet your sugar cravings, indulge in fruity delights or raisins and dates. Avoid spicy food, as they contain more salt than usual.

Keep a glass of water handy and sip at regular intervals while at work. Out body requires minimum of 6 to 10 glasses of fluid per day, and nothing can replace a glass of pure water. Instead of tea/coffee, have green tea/lemonade/vegetable or herbal juices.

It is important to maintain an ideal body weight.

At work: While at work, take a five-minute break every hour to stretch your body. Look away from the computer screen and do few rounds of deep breathing. Devote exclusive time to eating and do not have food in front of computer, or speaking over phone. Drink water only after an hour after your meals. Stroll a while after lunch and dinner.

Pamper your body: When back from work,

soak your feet in hot water tub to which few drops of aroma oil like lavender is added, if time permits. Sprinkle your eyes with clean water while holding water in your mouth for a few seconds. Repeat three times, as this gets your eyes hydrated.

Early dinner: An early dinner complements the active body, and goes a long way in preventing weight gain and helps induce better sleep. Moreover, drinking a glass of lukewarm milk at bedtime can help in giving you a sound undisturbed sleep.

Plan an outing: Plan weekly getaways or outdoor excursions. If picnic is not possible, go cycling or do any such outdoor activity that you enjoy doing.

Indian gold spice turmeric may prevent onset of diabetes

Curcumin, present in turmeric, when combined with omega-3 fat, could potentially delay or prevent the onset of type2 diabetes, reveal researchers.

The scientists from University of Newcastle's Nutraceuticals Research Group, led by Prof. Manohar Garg, revealed that they are conducting a clinical study to find out if the Indian spice, turmeric, when combined with an omega-3 fat can actually delay the onset of type 2 diabetes or prevent its onset altogether.

Speaking on this, Garg said, the root cause of Type 2 diabetes is systemic inflammation, which impacts insulin secretion and functioning. The aim is to nip this inflammation in the budy. The study will make use of two bioactive compounds commonly found in food, curcumin and omega-3 fat, and both are very vital anti-inflammatory agents.

Derived from turmeric, curcumin forms part of ginger family, and is used as a common spice in Indian kitchen and also used for food colouration. The healing properties of turmeric are well-known in India. For centuries, turmeric has been used in healing sprains, bruises, wounds and inflammation.

But even in India, the level of intake of curcumin has significantly reduced as Indians have switched over to westernised fast foods, and hence, there has also been considerable increase in cases of type 2 diabetes. In fact, diabetes is more like an epidemic in India now, and growing to be a major health burdern, Garg said.

The randomised control trial will test both compounds, with recruitment group being segregted into four – one group with just curcumin, second with omega-3 fat only, third with curcumin and omega 3, and fourth will be the control group.

Capsules containing 200mg of curcumin and 1g of omega-3 fat respectively will be given to people who are prone to develop diabetes due to impaired glucose tolerance or impaired fasting glucose, in the age group 30 to 70 years.

The anti-inflammatory mechanism of curcumin and omega-3 fats are different, and hence it should be tested if they complement each other, and have treatment synergies beyond their individual effects. It is however, presumed that the combination is safe and free of any associated side-effects, and will prove to be as effective as the drugs used for management of diabetes, he pointed out.

Numerous therapeutic activities have been assigned to turmerice for treatment of a great variety of disease and conditions, including skin, pulmonary and gastrointenstional systems like pains, wounds, sprains and liver disorders, since the time of Ayurveda.

Over the last half century, extensive researches have proven that most of the activities associated with turmeric are due to the presence of 'curcumin', which has shown to exhibit anti-inflammatory, anti-oxidant, antiviral, antifungal, antibacterial and anticancer, and hence has a potential against various malignant diseases, allergies, diabetes, arthritis, Alzheimer's disease and other chronic illness.

Tumeric has been used for centuries in Ayurveda, and is believed to balance the three doshas vata, pitta and kapha. Ayurvedic practioners recommend turmeric as medicine internal in the form of fresh juice, tinctures, boiled tea, or in powdered form, and also topically used in the form of lotions, pastes, creams and ointments. Moreover, now science believes that 'multitargeted' therapy is better than 'monotargeted' therapy for most diseases, for which, curcumin is ideal. Hence

curcumin is also considered to be an ideal ' Spice for Life'.

Ayurvedic guideline to balance kapha dosha during Spring season

Ayurveda associates every season with doshas or certain set of qualities. Ayurveda believes that vata dosha governs winter (associated with cold, dry and dark), while the spring season begins wet and cold in March, and ends up wet and hot in June and is characterized by kapha dosha.

Ayurveda holds the transition between seasons as being highly critical for health. For instance, during the winters or the vata season, we generally consume foods that are heavy, oily, sweet or dense, but, this is surely not favourable for Kapha season or the spring season.

Hence, mentioned here are basic guidelines from Ayurveda involving diet and lifestyle adjustments, and some quick tips to take care of your body during the kapha or spring season:

Kapha Dosha governs structure and fluid balance in the body. The main role of kapha is stability and structure.

Symptoms of increased kapha: If you have some or all of the below mentioned symptoms, you may be having excess kapha in your body.

Some symptoms are – lethargy, heaviness, excess sleep, cold skin, cough, slow digestion, lack of motivation.

For reducing excess kapha: Fast once a week for twenty four hours. Foods with pungent, bitter and astringent tastes are best for kapha. Reduce sweet, sour and salty foods. Maintain lunch as your largest meal, and ensure that you get good physical exercise. Take regular baths and saunas to promote sweating.

Quick tips for kapha balance:

Eat hot food and drink hot and stimulating beverages.

Keep lunch as your largest meal of the day.

Consume more green leafy vegetables and legumes. Include ginger, clobes and cinnamon to your food. Avoid dairy products as they produce mucus.

Using raw honey helps liquefy kapha and gets it out of your system.

Its best to wake up before sunrise, as waking up after sunrise makes you more lethargic.

Kapha time of the day is usually between 6am to 10am. Exercise briskly during this time.

Avoid napping during the day, and remain seated for 5 to 10 minutes to get the food processed by your digestive tract. Napping slows down metabolism and reduces fire needed for digestion. Sip hot water all through the day. Use barley, buckwheat, corn, rye and millet and cut down on wheat and rice. Avoid heavy meats and fried foods. Eat light breakfast, good lunch and very light dinner.

Indulge in stimulating and rejuvenating body therapies.

Practise yoga asanas in the morning including the Sun Salutation, Locust, fish, Bow, Boat, Lion and Camel and inversions. These postures help open the chest, relieve congestion, stretch the throat and help drain the sinuses. Yoga postures can be followed by some Pranayama, particularly 'Bhastrika' which will cleanse kapha dosha. After breathing exercises, sit for some quiet meditation.

On knowing your true nature, you can take complete charge of your health and well-being.