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The World Health Organization (WHO) defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." For this purpose, a unique health system is required. The mainstream health system also called as Modern system of medicine has failed to achieve this ultimate state of health which Ayurveda or many other health systems talk. But the problem with traditional or Complimentary medicine systems is that these could not come out of their regional and geographical limits or silos. According to the Cambridge dictionary, 'Integration' means to mix and join. The Longman dictionary of contemporary English explains integration as "the combining of two or more objects so that they work together effectively". So in a general sense, integration is bringing together the objects or things and utilizing them for the more extensive interests. When we talk about the integrative medicine, it means as practising 'medicine in a way that selectively incorporates elements of traditional, complementary and alternative medicine (CAM) into comprehensive treatment plans alongside solidly orthodox methods of diagnosis and treatment' (https://www.bmj.com/content/322/7279/119). Another definition characterizes Integrative Medicine as healing-oriented medicine that takes account of the whole person, including all aspects of lifestyle. It is a system of medicine which is patient-centric and sees the patient as a whole and cares about his physical, mental, spiritual and social well-being. In the western world, integrated medicine is developing to absorb Complementary and Alternative Medicine in the framework of Bio-medicine. There are regulatory environment and system for integrated medicine in a few western countries.

In India also a concept of integration is developing and Government is planning to come out with an idea 'One Nation One Health system'. The reality is that in India, pleural health systems are there with regulatory provision for each of these systems. Bio-medicine or western medicine is the mainstream health system, but other systems also have their standing at national or regional levels. To integrate these systems with themselves and with mainstream medicine is a difficult task. However, the Indian Government has constituted working groups to integrate education, research, practice, public health and administration under the chairmanship of eminent experts of the country. These groups are extensively working hard to come out with some sustainable but dynamic models of integration.

Integration is the need of the nation and the professionals of each system of medicine should have first-hand knowledge of every system and should have mutual respect for every system and their experts. Physicians must know the strengths of each system, and those strengths must be utilized for the well-being of society at large. At the same time, the experts of each system should be able to understand the weaknesses and limitations of their systems. They should have good communication with other systems for broader interests. Experts and scientists seem to be agreeing on the point that the integration should initially be at graduation level. But one has to be very cautious that while integrating the systems, the identity, originality and purity of respective systems should be maintained and one system should not get lost or carried away by other system/s.

Prof. Sanjeev Sharma
Director
Clinical Study of *Pathyadi Yoga* and *Bibhitaka Curna* in the management of *Tamakashvasa*

*Dr. Manish Singh, **Dr. Kedar Lal Meena, ***Late Dr. Govind Pareek*

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**ABSTRACT**

*Tamakashvasa* is mentioned as one of the variety among *panchavidha shvasa* in ayurvediya classics. It is mentioned as chronic in nature and compared to bronchial asthma. It has been reported that 2–7% of Indians have asthma prevalence for hospitalizations and while considering Global scenario, fatal asthma has increased in the United States over the past 20 years. The Present study was done to assess the efficacy of *Pathyadi Yoga* and *Bibhitaka Curna* on *Tamakashvasa*.

30 patients taken under inclusion criteria from OPD & IPD of NIA, Jaipur were randomly divided into 2 groups of 15 patients in each group. Group-A and group-B patients were given *Pathyadi gutika* and *Bibhitaka gutika* respectively in a dose of 4 gm to keep in their mouth after food for three times a day for the duration of 30 days and left for 15 days without medicine. *Pathyadi gutika* contains *Pathya, Sunthi, Ghana, Guda* and *Bibhitaka gutika* contains *Bibhitaka, Guda*. Assessments of the results were done on the basis of subjective parameters then results were analyzed by using suitable statistical test. Both groups showed highly significant effects on most of the subjective parameters. Group A showed significant improvement in symptoms Cough (p=0.000051), Frequency of Bouts of Respiration (p=0.000748), Duration of Attack (p=0.000926), Comfort after Expectoration, (p=0.001316), while Group B showed significant improvement in symptoms Duration of Attack (p=0.000013), Cough (p=0.000035), Comfort after Expectoration (p=0.000748), Pain in the Chest and Flank (p=0.002957), Frequency of Bouts of Respiration (p<0.00001) and Unable to Breathe while Lying (p=0.000074).

On symptomatic analysis and percentage wise analysis in some symptoms, better results were observed in Group-B by *Bibhitaka gutika*. So it is concluded that *Bibhitaka gutika* is more effective than *Pathyadi gutika* in management of *Tamakashvasa*.

**Keywords**: *Tamakashvasa, Bibhitaka gutika, Pathyadi gutika, Cough*.

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Introduction:

Tamakashvasa is mentioned as one of the variety among panchavidha shvasa. Tamakashvasa is a svatantra vyadhi and having its own etiology, pathology and management. It is mentioned as chronic in nature and compared to bronchial asthma.

Vata and kapha are the two key pathological factors involved in the samprapti of tamakashvasa. The predominant morbidity of vata and kapha dosha, which stems out from the pittasthana, afflicts the rasa dhatu disturbing the function of pranavahasrotas. Then, it leads to the manifestation of tamakashvasa. The sequential administration of snehana, swedana, sodhana, samana, bruhmana and rasayana line of treatment in a chronological order is explained in Carakasanhita. Among these different therapeutic procedures, samana line of treatment plays an important role and is very easy and also effective. Plenty of research works have been carried out in relation to the samana line of treatment in ayurveda, but the therapeutic effect of this management without the sodhana procedure in tamakashvasa is yet to be explored. To achieve samyata of vitiated dosha, is the main aim of treatment. To achieve this, sodhana and samana therapies are described. Though sodhana is better than samana, but it cannot be applied in every individual. So before treatment, one should consider the status of dosha as well as physical status of the patients. Hence, an attempt is made to know about the therapeutic effect of Pathyadi yoga and Bibhitaka Curna as a samana aushadhi in Tamakashvasa, where dosha is in fewer amounts, without any sodhana procedures as purvakarma. Tamakashvasa is identified as yapya or kastasadhiya and its treatment has to be continued for a longer period. Pathyadi yoga and Bibhitaka Curna are such herbal combination mentioned in ashtangahridyam, which is said to be samana yoga for shvasa.

It has been reported that 2-7% of Indians have asthma prevalence for hospitalizations and while considering Global scenario, fatal asthma has increased in the United States over the past 20 years. The social and economic burden associated to asthma is severe. In order to decrease these burdens, tamakashvasa demands distinct remedy.

Aims and Objectives

1. To understand the conceptual etiopathogenesis of tamakashvasa.
2. To understand fundamental principle of muhurmuhuh kala.
3. To evaluate the safety of Pathyadi yoga and Bibhitaka curna.
4. To evaluate the efficacy of Pathyadi yoga and Bibhitaka curna.

Materials And Methods

31 patients taken under inclusion criteria from OPD & IPD of NIA and bombaywala hospital, Jaipur, Rajasthan were randomly divided into 2 groups of 15 patients in each and subjected to open, randomized, interventional type of clinical study after taking their written consent. Only 30 patients completed the scheduled regimen. Group-A and group-B patients were given Pathyadi gutika and Bibhitaka gutika respectively in a dose of 4 gm to keep in their mouth after food for three times a day for the duration of 30 days and left for 15 days without medicine. Patients were examined for the change in the signs and symptoms on 0 days, 30th days and 45th days then results were analyzed by using suitable statistical test.

Assessments of the results were done on the basis of following subjective parameters viz. frequency of bouts of respiration, duration of attack, intensity attack, discomfort in breathing, pain in the chest and flank, cough, ghurghuraka sound, comfort after expectoration, unable to breath while lying, comfort on sitting, desire of hot comforts and unable to sleep.

Inclusion Criteria

1. Patients of either sex with the age group 16 to 60 years
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3. Diagnosed and confirmed cases of Bronchial Asthma
4. Patients suffering with mild to moderate Bronchial asthma.

Exclusion Criteria
1. Patients suffering from mahashvasa, urdhvashvasa and chinnashvasa
2. Patients with peak expiratory flow rate (PEFR) < 50% and/or forced expiratory volume in 1 second (FEV1) < 50% of the predicted value
3. Patients with evidence of malignancy
4. Patients with other cardiac complains
5. Patients with poorly controlled Diabetes Mellitus (HbA1c > 10%)
6. Patients suffering from other systemic illness
7. Any other condition which the principal Investigator thinks may jeopardize the study.

Table No. I - Ingredients of Pathyadi gutika

<table>
<thead>
<tr>
<th>Name of drug</th>
<th>Latin name</th>
<th>Proportion</th>
<th>Part Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Pathya</td>
<td>Terminalia chebula Retz</td>
<td>1 part</td>
<td>Fruit</td>
</tr>
<tr>
<td>2) Sunthi</td>
<td>Zingiber officinale Roxb.</td>
<td>1 part</td>
<td>Rhizome</td>
</tr>
<tr>
<td>3) Ghana</td>
<td>Cyperus rotundus Linn.</td>
<td>1 part</td>
<td>Rhizome</td>
</tr>
<tr>
<td>4) Guda</td>
<td>Saccharum officinarum Linn (concentrated preparation)</td>
<td>2 part</td>
<td></td>
</tr>
</tbody>
</table>

Table No. II - Ingredients of Bibhitaka gutika

<table>
<thead>
<tr>
<th>Name of drug</th>
<th>Latin name</th>
<th>Proportion</th>
<th>Part Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Bibhitaka</td>
<td>Terminalia belerica Roxb.</td>
<td>1 part</td>
<td>Fruit</td>
</tr>
<tr>
<td>2) Guda</td>
<td>Saccharum officinarum Linn (concentrated preparation)</td>
<td>2 part</td>
<td></td>
</tr>
</tbody>
</table>

Results

Table No. III - Effects on subjective parameters in 15 patients of Group-A

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Subjective Parameters</th>
<th>Mean Score</th>
<th>Change in %</th>
<th>SD ± SE ±</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Frequency of Bouts of Respiration</td>
<td>2.47 0.60 1.87</td>
<td>75.7 1.68</td>
<td>0.43</td>
<td>4.29</td>
<td>0.000748</td>
</tr>
<tr>
<td>2</td>
<td>Duration of Attack</td>
<td>2 0.67 1.33</td>
<td>66.5 1.23</td>
<td>0.32</td>
<td>4.18</td>
<td>0.000926</td>
</tr>
<tr>
<td>3</td>
<td>Intensity of Attack</td>
<td>1.87 0.93 0.94</td>
<td>50.27 0.88</td>
<td>0.23</td>
<td>4.09</td>
<td>0.001103</td>
</tr>
<tr>
<td>4</td>
<td>Discomfort in Breathing</td>
<td>2.2 1.07 1.13</td>
<td>51.51 0.74</td>
<td>0.19</td>
<td>5.90</td>
<td>0.000039</td>
</tr>
<tr>
<td>5</td>
<td>Pain in the Chest and Flank</td>
<td>0.53 0.33 0.20</td>
<td>37.7 0.56</td>
<td>0.14</td>
<td>1.38</td>
<td>0.189227</td>
</tr>
<tr>
<td>6</td>
<td>Cough</td>
<td>1.73 0.40 1.33</td>
<td>76.87 0.89</td>
<td>0.23</td>
<td>5.74</td>
<td>0.000051</td>
</tr>
<tr>
<td>7</td>
<td>Ghurghuraka Sound</td>
<td>2.40 1.40 1</td>
<td>41.67 0.92</td>
<td>0.24</td>
<td>4.18</td>
<td>0.000926</td>
</tr>
<tr>
<td>8</td>
<td>Comfort after Expectoration</td>
<td>1.4 0.6 0.8</td>
<td>57.14 0.77</td>
<td>0.2</td>
<td>4</td>
<td>0.001316</td>
</tr>
<tr>
<td>9</td>
<td>Unable to Breathe while Lying</td>
<td>1.27 0.73 0.54</td>
<td>42.51 0.74</td>
<td>0.19</td>
<td>3.23</td>
<td>0.006049</td>
</tr>
<tr>
<td>10</td>
<td>Comfort on Sitting</td>
<td>0.93 0.60 0.33</td>
<td>35.48 0.62</td>
<td>0.15</td>
<td>2.09</td>
<td>0.055347</td>
</tr>
<tr>
<td>11</td>
<td>Desire of Hot Comforts</td>
<td>1.87 1.27 0.60</td>
<td>32.08 0.63</td>
<td>0.16</td>
<td>3.67</td>
<td>0.002523</td>
</tr>
</tbody>
</table>
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### Table No. IV - Effects on subjective parameters in 15 patients of Group-B

<table>
<thead>
<tr>
<th>S. N.</th>
<th>Subjective Parameters</th>
<th>Mean Score</th>
<th>Change in %</th>
<th>SD ±</th>
<th>SE ±</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Frequency of Bouts of Respiration</td>
<td>2</td>
<td>1.27</td>
<td>63.5</td>
<td>0.59</td>
<td>8.26</td>
<td>&lt;0.00001</td>
</tr>
<tr>
<td>2</td>
<td>Duration of Attack</td>
<td>3.13</td>
<td>2.46</td>
<td>78.59</td>
<td>1.46</td>
<td>6.55</td>
<td>0.000013</td>
</tr>
<tr>
<td>3</td>
<td>Intensity of Attack</td>
<td>1.73</td>
<td>0.86</td>
<td>49.71</td>
<td>0.64</td>
<td>5.24</td>
<td>0.000125</td>
</tr>
<tr>
<td>4</td>
<td>Discomfort in Breathing</td>
<td>2.33</td>
<td>1</td>
<td>42.85</td>
<td>1.07</td>
<td>3.62</td>
<td>0.002786</td>
</tr>
<tr>
<td>5</td>
<td>Pain in the Chest and Flank</td>
<td>1.27</td>
<td>0.81</td>
<td>63.7</td>
<td>0.86</td>
<td>3.59</td>
<td>0.002957</td>
</tr>
<tr>
<td>6</td>
<td>Cough</td>
<td>2</td>
<td>1.40</td>
<td>70</td>
<td>0.91</td>
<td>5.96</td>
<td>0.000035</td>
</tr>
<tr>
<td>7</td>
<td>Ghurghuraka Sound</td>
<td>2.73</td>
<td>0.60</td>
<td>21.97</td>
<td>1.05</td>
<td>1.47</td>
<td>0.163675</td>
</tr>
<tr>
<td>8</td>
<td>Comfort after Expectoration</td>
<td>1.8</td>
<td>1.2</td>
<td>66.67</td>
<td>1.08</td>
<td>4.29</td>
<td>0.000748</td>
</tr>
<tr>
<td>9</td>
<td>Unable to Breathe while Lying</td>
<td>1.40</td>
<td>0.80</td>
<td>57.14</td>
<td>0.56</td>
<td>5.53</td>
<td>0.000074</td>
</tr>
<tr>
<td>10</td>
<td>Comfort on Sitting</td>
<td>1.20</td>
<td>0.60</td>
<td>50</td>
<td>0.91</td>
<td>2.55</td>
<td>0.023117</td>
</tr>
<tr>
<td>11</td>
<td>Desire of Hot Comforts</td>
<td>1.93</td>
<td>0.46</td>
<td>23.83</td>
<td>0.74</td>
<td>2.43</td>
<td>0.029143</td>
</tr>
<tr>
<td>12</td>
<td>Unable to Sleep</td>
<td>1.87</td>
<td>0.87</td>
<td>46.52</td>
<td>1.12</td>
<td>2.98</td>
<td>0.009938</td>
</tr>
</tbody>
</table>

### Table No. V - Comparative efficacy in different signs and symptoms between two groups

<table>
<thead>
<tr>
<th>S. N.</th>
<th>Signs &amp; Symptoms</th>
<th>t-calculated</th>
<th>t-table value</th>
<th>P-value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Frequency of bouts of respiration</td>
<td>1.30998</td>
<td>2.048</td>
<td>0.203872</td>
<td>NS</td>
</tr>
<tr>
<td>2</td>
<td>Duration of attack</td>
<td>-1.68837</td>
<td>2.048</td>
<td>0.102449</td>
<td>NS</td>
</tr>
<tr>
<td>3</td>
<td>Intensity attack</td>
<td>0.23664</td>
<td>2.048</td>
<td>0.814656</td>
<td>NS</td>
</tr>
<tr>
<td>4</td>
<td>Discomfort in breathing</td>
<td>0.39662</td>
<td>2.048</td>
<td>0.694658</td>
<td>NS</td>
</tr>
<tr>
<td>5</td>
<td>Pain in the chest and flank</td>
<td>-2.26011</td>
<td>2.048</td>
<td>0.631782</td>
<td>HS</td>
</tr>
<tr>
<td>6</td>
<td>Cough</td>
<td>-0.20174</td>
<td>2.048</td>
<td>0.841581</td>
<td>NS</td>
</tr>
<tr>
<td>7</td>
<td>Ghurghuraka sound</td>
<td>1.65503</td>
<td>2.048</td>
<td>0.109086</td>
<td>NS</td>
</tr>
<tr>
<td>8</td>
<td>Comfort after expectoration</td>
<td>-1.16398</td>
<td>2.048</td>
<td>0.254257</td>
<td>NS</td>
</tr>
<tr>
<td>9</td>
<td>Unable to breathe while lying</td>
<td>-1.21395</td>
<td>2.048</td>
<td>0.234906</td>
<td>NS</td>
</tr>
<tr>
<td>10</td>
<td>Comfort on sitting</td>
<td>-0.93909</td>
<td>2.048</td>
<td>0.355716</td>
<td>NS</td>
</tr>
<tr>
<td>11</td>
<td>Desire of hot comforts</td>
<td>0.52915</td>
<td>2.048</td>
<td>0.600872</td>
<td>NS</td>
</tr>
<tr>
<td>12</td>
<td>Unable to sleep</td>
<td>-0.86112</td>
<td>2.048</td>
<td>0.39487</td>
<td>NS</td>
</tr>
</tbody>
</table>
Discussion

In comparative efficacy between the groups, significant difference was found only in one symptom i.e. in pain in the chest and flank. In all other signs and symptoms, no significant differences were found in between the groups. Although both groups had significant result, there was no overall significant difference in between the groups on statistical analysis. On symptomatic analysis and percentage wise analysis in some symptoms, better results were observed in Group-B by Bibhitaka gutika. Possible mode of action of the drugs Pathyadi gutika

The treatment or drugs should be kapha-vataghna, ushna and vatanulomana in shvasaroga. The ruksha and laghu guna of the ingredients of Pathyadi gutika act on the elevated kapha and snigdha, ushna guna on Vata heping in vatanulomana. Its deepana & pacana karma by katu-tikta rasa improve agni so that formation of ama is stopped leading to the formation of suddharasa and kaphadhatu. Ushna veerya does kapha-vatasamana. Obstruction from the srotas is removed by its srotasam vivandhahara properties.

Probable mode of action of the drugs Bibhitaka gutika

The rukshna and laghu guna of the ingredients of Bibhitaka gutika act on the elevated kapha and snigdha, ushna guna on Vata heping in vatanulomana. Madhura rasa of guda pacify the elevated vata. Kasaya and kshara properties pacify the elevated kapha and its bhedana karma removes its obstruction from the srotas. Ushna veerya does kapha-vatasamana.

Conclusion

In etiopathogenesis of tamakashvasa, vata and kapha are the two key pathological factors. Muhuh means again and again or repeatedly. Especially muhuh kala is indicated in shvasaroga as it is also due to the dysfunction of pranayu. Pathyadi yoga and Bibhitaka curna are found highly safe in tamakashvasa. Significant result (p value <0.05) was found in the both groups - Pathyadi yoga and Bibhitaka curna in tamakashvasa. In the comparison between groups, no significant difference was found. Thus the treatment in both groups was found equally effective.

References


आयुर्वेदिक संहिताओं में वर्णित तमक श्वास रोग पचविध श्वास का एक प्रकार है। यह एक प्रमुख श्वास है, एवं इसकी तुलना आधुनिक विज्ञान में बोलियल अस्थमा व्याधि से की गई हैं। एक रिपोर्ट के अनुसार 20-70% भारतीयों को अस्थमा के आधार से भर्ती किया जाता है, और जबकि वैज्ञानिक परिदृश्य पर विचार करने पर पिछले 20 वर्षों में अस्थमा के रोगियों की संख्या राज्य अमेरिका में काफी वृद्धि हुई है।

इसलिए वर्तमान अवधारण तमक श्वास पर पथ्यादि गुटिका और विभीतक चूर्ण का प्रमाणकारिता का आकलन करने के लिए किया गया था।

30 मरीजों का राष्ट्रीय आयुर्वेद संस्थान, जयपुर के बहिरंग एवं अंतरंग विभाग में परीक्षण किया गया। प्रत्येक समूह में 15-45 मरीजों को रखा गया। समूह-अ के रोगियों को पथ्यादि गुटिका और समूह-ब के रोगियों को विभीतक चूर्ण 15 दिनों के लिए दिया गया। परिणामों का आकलन तमक श्वास रोग के लक्षणों के आधार पर एवं उपयुक्त साहित्यकीय परीक्षण का उपयोग करके किया गया। दोनों समूहों के अधिकांश लक्षणों में महत्वपूर्ण प्रभाव देखा गया एवं समूह-ब के कुछ लक्षणों में रोगरूपक विश्लेषण एवं प्रतिशत वार विश्लेषण पर, केवल परिणाम पाया गया।

अतः यह निष्कर्ष निकाला जा सकता है कि परीक्षण औषधि विभीतक चूर्ण पथ्यादि गुटिका की तुलना में अधिक प्रभावी है।
**ABSTRACT**

Introduction: In India about 23% peoples are Hypertensive while 38 % are pre-hypertensive. Hypertension and Prehypertension is a major risk factor for the development of cardiovascular disease and cerebrovascular disease causing high rate of mortality and morbidity. Presents study throws a detailed light on preventive efficacy of pranayama in prehypertension. Method: The present study was undertaken to study the role of Bharamari Pranayam and Anulomviloma Pranayama on prehypertension. 34 patients of prehypertension were selected from OPD, NIA, Jaipur by random sampling for this study. The samples were divided in two groups, Group-A for Anulomviloma Pranayama and group-B for Bhramari Pranayama. The Pranayamas were practiced by the subjects every day for two months. The Lipid profiles and blood pressures were compared one day prior and one day after experimental period. Results: On statistical analysis, Anulomviloma and Bhramari Pranayama were found to have significant favorable effect on blood pressure and lipid profile. Conclusion: On the basis of the various observations and results obtained after completion of the current research study, it can be concluded that, Bhramari pranayama and Anoloma-viloma pranayama may be used in the prevention of hypertension in prehypertensive phase. On symptomatic analysis and percentage wise analysis in some symptoms, better results were observed in Group-B by Bibhitaka gutika. So it is concluded that Bibhitaka gutika is more effective than Pathyadi gutika in management of Tamakashvasa.

**Keywords:** Prehypertension, Anulomviloma and Bhramari Pranayama

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**How to Cite the Article:** Tiwari S, Agrawal S, Sharma KK, A clinical trial to evaluate the role of pranayama in pre-hypertension, JOA XIV-3, 2020; 9 - 15

**Introduction:**

Now a day, hypertension is one of the most common diseases in developing as well as developed countries. WHO states that more than one fourth of world population which is about 1 billion, is hypertensive. Hypertension is fourth contributor to premature death in developed country and seventh in developing countries. It is estimated that about 2.56 billion people are Hypertensive...
by 2025. Prevalence of prehypertension is significantly higher than hypertension worldwide. In India about 23% peoples are Hypertensive while 38% are pre-hypertensive. It is more severe than the expected; because 50% of the cases remain undiagnosed hence prevalence is much more than the calculated. Prehypertension is normal healthy condition in which blood pressure ranges lower limit of the hypertensive range (blood pressure >120/80 mmHg, but <140/90 mmHg). It is detected on routine medical check-up. Prehypertension frequently evolves to hypertension (HTN) and increases cardiovascular risk. Hypertension is a major risk factor for the development of cardiovascular disease and cerebrovascular disease causing high rate of mortality and morbidity. According to allopathic system of medicine there is no cure for Hypertension. It can only be controlled by medicine. Therefore, patient is needed to depend lifelong on the oral medicine with the lots of side effects. Prevention is better than cure, so there is need to prevent the disease by arresting it in very initial stage i.e. prehypertension.

Aims and Objectives
1. Commemorate the classical reference and etiopathogenesis of hypertension.
2. To evaluate the role of Bhramari Pranayama and Anuloma Viloma Pranayama in pre-hypertension.

Material and Method
Research Design: Open Randomized Clinical Trial
Selection of Cases: 34 patients were selected randomly from OPD & IPD, National Institute of Ayurveda, Jaipur, which had raised blood pressure in pre-hypertensive range as per 7th.JNC & WHO criteria for Diagnosis Hypertension (above120/80 and below 140/90). Daily reading of BP are taken in consecutive for 7 days after rest of 15 min and average are utilized for diagnosing pre-hypertension. The cases were randomly selected regardless of their age, sex, and socio-economic consideration.

Inclusion Criteria
1. Age between 18 to 45 years.
2. Blood pressure: Systolic- 130 to 139 mm Hg and Diastolic-80 to 89 mm Hg.

Exclusion Criteria
1. Diagnosed case of Hypertension or takes any antihypertensive medication.
2. Patient having any other associated systemic disorder are excluded.

Grouping and Intervention of Pranayama
Sample size: 34 patients
Group A- 17 well diagnosed patients of prehypertension were intervened by anuloma-viloma pranayama started with 3-5 rounds which has been increased for 15 to 20 minutes as per stamina for 15 to 20 minutes.
Group B- 17 well diagnosed patient of prehypertension was intervened by bhramari pranayama for minimum 3 to 5 rounds.

Trial period- 60 days
Criteria of Assessment
Objective Parameter
1. Blood pressure (a) Systolic (b) Diastolic
2. Pulse Pressure
3. Pulse Rate
4. Respiratory rate
5. Lipid profile
All investigations are done before and after study period.

Method of Study:
Thirty four patients were selected for this study. They were interviewed and investigated using a specific proforma to obtain information about the disease and...
collect the different data for the study. These patients have been divided randomly into two groups based on the type of therapy given: Group A - Anulom-vilom pranayama and Group B - Bhramari pranayama.

Patients were studied up to three follow-ups at the interval of 15 days each. Out of 34 patients, 2 patient of group A and 2 patient of group B were irregular to their follow-ups, so they were discarded from the present study. Final assessment of results was done only in 30 patients of prehypertension.

**Statistical Methods:**

All the data were collected in tabulated form and shown in graphic representation also. The intra-group comparison was done to see the effect of treatment using 'paired t-test' test for symptoms and other investigations. The effect of yogic practices was seen by inter-group comparison between group A and B using the unpaired t test. Probably score was fixed at 5% level.

**Ethical Clearance:** This work has been approved by institutional Ethical Committee of National Institute of Ayurveda, Jaipur, No.IEC/ACA/2015/115 dated 21.05.2015.

**Results**

**Objective Parameters**

1) **Pulse Rate:** Before trial, mean value was 79.123 in Group B, 82.856 in Group A, and after treatment it was reduced to 74.437 in Group B, 75.673 in Group A. The percentage of improvement was 5.63% in Group B and 3.8% in Group A. Statistically, Group-B is extremely significant (p<0.0001) while Group-A is very significant (p<0.0031).

**Inter-group comparison:** Applying Unpaired ‘t’ test the two-tailed P value is 0.1822 considered not significant.

2) **Systolic Blood Pressure (mm Hg):** Measured in all cases before trial had a mean of 132.86 in Group B, 131.14 in Group A, and after treatment it was reduced to 126.97 in Group B, 125.04 in Group A. The percentage of improvement was 4.43% in Group B and 3.9% in Group A. statistically, both are very significant with p value 0.0035 for group B and 0.0042 for group A.

**Inter-group comparison:** Applying Unpaired ‘t’ test the two-tailed P value is 0.415 considered not significant.

3) **Diastolic BP (mm Hg):** Before trial, mean value was 86.395 in Group B, 86.418 in Group A, and after treatment it was reduced to 83.046 in Group B, 83.351 in Group A. The percentage of improvement was 3.83% in Group B and 3.54% in Group A. statistically, Group B is extremely significant with p=0.0007 and Group A is very significant with p=0.0015.

**Inter-group comparison:** Applying Unpaired ‘t’ test the two-tailed P value is 0.999 considered not significant.

4) **S. Cholesterol (mg/dl):** Before trial, mean value was 183 in Group B, 182.33 in Group A, and after treatment it was reduced to 172.07 in Group B, 175.47 in Group A. The percentage of improvement was 5.9% in Group B and 3.76% in Group A. statistically, both are very significant (p<0.001).

**Inter-group comparison:** Applying Unpaired ‘t’ test the two-tailed P value is 0.1924 considered not significant.

5) **S. Triglyceride (mg/dl):** Before trial, mean value was 134.6 in Group B, 142.2 in Group A, and after treatment it was reduced to 123.1 in Group B, 133.9 in Group A. The percentage of improvement was 8.5% in Group B, which are statistically extremely significant (p<0.0001) and 5.8% in Group A, which are statistically very significant (p<0.001).

**Inter-group comparison:** Applying Unpaired ‘t’ test the two-tailed P value is 0.363 considered not significant.

6) **HDL (mg/dl):** Before trial, mean value was 48.33 in Group B, 48.2 in Group A, and after treatment it was raised to 52.067 in Group B, 51.067 in Group A. The percentage of improvement was 7.7% in Group B which are statistically very significant (p<0.001) and 5.9% in Group A, which are statistically significant (p<0.01).

**Inter-group comparison:** Applying Unpaired ‘t’ test the two-tailed P value is 0.3732 considered not significant.

7) **LDL (mg/dl):** Before trial, mean value was 107.63 in
Group B, 105.69 in Group A, and after treatment it was reduced to 97.73 in Group B, 101.43 in Group A. The percentage of improvement was 9.19% in Group B which is statistically very significant (p<0.001) and 4.03% in Group A statistically, which is significant (p<0.01).

**Inter-group comparison:** Applying Unpaired ‘t’ test the two-tailed P value is 0.11 considered not significant.

8) VLDL (mg/dl): Before trial, mean value was 26.92 in Group B, 27.92 in Group A, and after treatment it was reduced to 24.69 in Group B, 25.60 in Group A. The reduced percentage was 8.4% in Group B, which is statistically significant (p<0.001), and 8.3% in Group A, which is statistically significant (p<0.001).

**Inter-group comparison:** Applying Unpaired ‘t’ test the two-tailed P value is 0.99 considered not quite significant.

**Table I: Effect of Therapy on Objective Parameters**

<table>
<thead>
<tr>
<th>S.N</th>
<th>Objective parameters</th>
<th>% Relief</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Group-B</td>
</tr>
<tr>
<td>1.</td>
<td>Pulse Rate</td>
<td>5.63%</td>
</tr>
<tr>
<td>2.</td>
<td>Systolic Blood Pressure</td>
<td>4.43%</td>
</tr>
<tr>
<td>3.</td>
<td>Diastolic Blood Pressure</td>
<td>3.83%</td>
</tr>
<tr>
<td>4.</td>
<td>S. Cholesterol</td>
<td>5.9%</td>
</tr>
<tr>
<td>5.</td>
<td>S. Triglyceride</td>
<td>8.5%</td>
</tr>
<tr>
<td>6.</td>
<td>HDL</td>
<td>7.7%</td>
</tr>
<tr>
<td>7.</td>
<td>LDL</td>
<td>9.19%</td>
</tr>
<tr>
<td>8.</td>
<td>VLDL</td>
<td>8.4%</td>
</tr>
</tbody>
</table>

**Table II: Inter & intra-group for objective parameters**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Group – B</th>
<th>Group – A</th>
<th>Intra-group comparison between BT &amp; AT (Paired t test)</th>
<th>t value on difference of BT &amp; AT (Unpaired t test)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BT(n=15)</td>
<td>AT(n=15)</td>
<td>BT(n=15)</td>
<td>AT(n=15)</td>
</tr>
<tr>
<td></td>
<td>Mean±SD</td>
<td>Mean±SD</td>
<td>Mean±SD</td>
<td>Mean±SD</td>
</tr>
<tr>
<td>Pulse Rate</td>
<td>83.12±5.09</td>
<td>78.43±4.41</td>
<td>83.86±5.93</td>
<td>79.63±5.117</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systolic Blood Pressure</td>
<td>132.86±4.96</td>
<td>126.97±6.19</td>
<td>131.14±4.56</td>
<td>125.94±6.03</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diastolic Blood Pressure</td>
<td>86.36±2.084</td>
<td>83.04±2.96</td>
<td>86.42±2.01</td>
<td>83.35±2.44</td>
</tr>
<tr>
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<td></td>
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<td></td>
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</tbody>
</table>

*Significant at p<0.01,* *very significant at p<0.001.*
Tiwari S, Agrawal S, Sharma KK, A clinical trial to evaluate the role of pranayama in pre-hypertension, JOA XIV-3, 2020; 9 - 15

### S. Cholesterol

<table>
<thead>
<tr>
<th></th>
<th>183±21.481</th>
<th>172.07±22.5</th>
<th>182.3±20.29</th>
<th>175.47±21.65</th>
<th>10.93±11.11</th>
<th>6.867±862</th>
<th>t = 1.336</th>
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<tbody>
<tr>
<td></td>
<td>P&gt;0.1</td>
<td>P&gt;0.001</td>
<td>P&gt;0.001</td>
<td>t = 3.813</td>
<td>t = 3.086</td>
<td></td>
<td></td>
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</tbody>
</table>

### S. Triglyceride.

<table>
<thead>
<tr>
<th></th>
<th>134.6±25.35</th>
<th>123.07±30.76</th>
<th>142.2±28.6</th>
<th>133.9±30.77</th>
<th>11.53±10.12</th>
<th>1.28±1.27</th>
<th>t = 0.9251</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t = 4.41</td>
<td>t = 2.741</td>
<td>t = 0.9251</td>
<td>t = 0.90</td>
<td>t = 0.90</td>
<td>P&gt;0.1</td>
<td>P&gt;0.1</td>
</tr>
</tbody>
</table>

### HDL

<table>
<thead>
<tr>
<th></th>
<th>48.33±2.23</th>
<th>52.07±4.56</th>
<th>48.2±0.41</th>
<th>51.07±4.04</th>
<th>-3.73±4.61</th>
<th>-2.87±4.05</th>
<th>t = 0.90</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t = 3.14</td>
<td>t = 2.741</td>
<td>t = 0.90</td>
<td>t = 0.90</td>
<td>t = 0.90</td>
<td>P&gt;0.1</td>
<td>P&gt;0.1</td>
</tr>
</tbody>
</table>

### LDL

<table>
<thead>
<tr>
<th></th>
<th>107.63±16.64</th>
<th>97.73±15.65</th>
<th>105.69±15.35</th>
<th>101.43±17.39</th>
<th>9.88±12.05</th>
<th>4.27±6.64</th>
<th>t = 1.64</th>
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<tbody>
<tr>
<td></td>
<td>t = 3.18</td>
<td>t = 2.93</td>
<td>t = 0.90</td>
<td>t = 0.90</td>
<td>t = 0.90</td>
<td>P&gt;0.1</td>
<td>P&gt;0.1</td>
</tr>
</tbody>
</table>

### VLDL

<table>
<thead>
<tr>
<th></th>
<th>26.92±5.07</th>
<th>24.69±1.60</th>
<th>27.92±5.36</th>
<th>25.6±1.87</th>
<th>2.03±3.48</th>
<th>2.32±3.88</th>
<th>t = 0.009</th>
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<tbody>
<tr>
<td></td>
<td>t = 2.22</td>
<td>t = 2.36</td>
<td>t = 0.009</td>
<td>t = 0.009</td>
<td>t = 0.009</td>
<td>P&gt;0.1</td>
<td>P&gt;0.1</td>
</tr>
</tbody>
</table>

**Discussion**

**Discussion on disease**

The term prehypertension was coined in 1939[1]. The individuals with blood pressure >120/80 mmHg, but <140/90 mmHg was the accepted value for the lower limit of the hypertensive range later classified as prehypertension. In north India the age and sex adjusted prevalence of prehypertension was 32.3% and hypertension was 23.2%. Incidence of prehypertension was highest (36%) in the age group 30-39 yr [2].

Following the diction of Charaka many scholars of present era have tried to correlate essential hypertension with different classical etiopathogenesis. Some of them are:

1. RaktagataVata - Dr. Y. N. Upadhyaya.
2. SiragataVata - Dr. G. N. Chaturvedi.
3. Avrittata - Dr. R. K. Sharma.
5. RaktaVridhi - Dr. G. N. Chaturvedi.
6. RaktaVata - Dr. P. V. Sharma.

Prehypertensive is stage of sanchaya, of doshas. Nidansevan vitiates vata especially vyana vata, which further vitiates sadhaka pitta and avalambaka kapha. All the three vitiates hridaya and manovahi srotas. On further nidana sevan this vitiated manovahi srotasa may give rise to according psychosomatic disease. Secondly, the balwati vyanavata circulate in whole body through circulatory system manifests according to kha-vaigunya created due to nidan sevana.

Hypertension the main pathogenesis occurs in Raktadhatu and Dhamani. It is considered as psychosomatic and Tridoshaja disorder with predominance of Vata dosha.

**Discussion on Bhramari Pranayama**

By the practicing Bhramari pranayamaa, buzzing sound of bee is produced and practitioner gets the pleasant feeling. In Bhramari pranayama, the ear is closed by thumb, nostrils are blocked by fingers and forehead is pressed not of vibrate with higher amplitude. When the natural frequency of vibration is equal to forced frequency then resonance will occurs. The vibration of thinking of human body can be control, it can be resonate by the Bhramari pranayama and resonance of the concentration of mind can be enhanced. Nada sound which is produced by Bhramari pranayama also activates the limbic system and release the depression. In such a way, Bhramari pranayamais effectively reduces stress and hence blood pressure.

Bhramari Pranayama techniques form an important
component of yoga. It maintains a slow rhythmic pattern of breathing using both nostrils, thus producing balancing effect on the autonomous nervous system (ANS) [3]. Blood pressure and pulse rate are related with cardiovascular system which is controlled by ANS.

The breathing process is directly connected to the brain and CNS and it is one of the most vital processes in the body system. It also has some connection with hypothalamus which controls emotional responses. It transforms perception into cognitive experiences. Secretion of neuro-transmitter is also under its control. If we breathe erectly erratic impulses sends to this Centre and creates disturbed responses as a result the level of GABA and serotonin is decreased which results anxiety. So by becoming aware of the nature of the breath and by restraining it, the whole system becomes controlled.

By Bhramari pranayama, we are helping to balance both of these systems in relation to each other as well as balancing brain activity [4].

Bhramari Pranayama produces vibrations in cranium bone and cranial cavity, this process produces a type of massaging action on brain which increases blood circulation in brain by opening several channels of circulation. Hence it increases brain’s potential and reduces stress.

The Bhramari Pranayama may help in reducing stress which in turn might have brought favorable changes in lipid profile. Cholesterol rises greatly with stress. Yoga relieves the stress and there by cholesterol level along with LDL, VLDL is declined while HDL level get raised [5].

Discussion on Anuloma-viloma

The Pranayama accompanied by breath control increases cardiac output, decreases hepatic, renal blood flow and increases cerebral peripheral vessels blood flow. Heart rate varies with single thought and thoughtless condition. Right nostril breathing activates sympathetic nervous system left activate parasympathetic. Alternate nostril breathing brings about balance in the autonomous nervous system [6].

The pranayama is an art of control of breathing, a practitioner of Anuloma-viloma Pranayama not only tries to breath, but the same time, also tries to keep his/her attention on the act of breathing leading to concentration. This act concentration removes his attention from worldly worries and de-stresses him/her. This stress free state of mind evokes relaxed response in this relaxed state, parasympathetic nerve activity overrides sympathetic nerve activity. Therefore a significant decline in systolic blood pressure after Anuloma-viloma Pranayama has been seen.

Conclusion

On the basis of the various observations and results obtained after completion of the current research project, it can be concluded that the Bhramari pranayam and Anoloma-viloma pranayam may be used in the prevention of hypertension in prehypertensive phase. The clinical response in terms of improvement in blood pressure was significant Bhramari pranayam and Anoloma-viloma pranayama. The practices of pranayama are inexpensive, cost effective technique with proved efficacy and safety, and patient can practice them at home easily with a little training, so it should be incorporated in the routine to prevent hypertension by arresting it in prehypertensive phase.

References

6. Dandekar Pradanya Deepak, Impact of Short Term Training of

**Aims:**

The aims of this study were to evaluate the role of pranayama in pre-hypertension, JOA XIV-3, 2020; 9 - 15

**The effects of Anlom Vilom Pranayam on Blood Pressure and Pulse Rate in Healthy Volunteers, Int.J.Res.Ayurveda Pharma.4(2), Mar - Apr, 2013:**

- Tiwari S, Agrawal S, Sharma KK, A clinical trial to evaluate the role of pranayama in pre-hypertension, JOA XIV-3, 2020; 9 - 15
Critical analysis of vyanga with melasma -A review article

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*M.S. Scholar, **Associate Professor, P.G. Dept. of Shalya Tantra, National Institute Of Ayurveda, Jaipur

ABSTRACT

Kshudra roga refers to minor skin diseases. Kshudra roga is made up of two words i.e. kshudra and roga. Kshudra means alpa or short/small /minor and roga means Disease Acharya Sushruta has mentioned 44 kshudra rogas, out of which Vyanga is a common kshudra roga affecting the face concerned with the beauty and personality of a person. Melasma is a common acquired and symmetrical hypermelanosis characterized by more or less dark brownish maculae with irregular contour, but clear limits, on photo-exposed areas especially the face, forehead, temples and more rarely on the nose, eyelids, chin and upper lips. Vyanga aggravates by krodha and aayasa, gets associated with pitta and produces Niruja (painless) and Shyav varna Mandalas (bluish-black patches) on face. On the basis of clinical features it can be perceived as facial melanos, one of the hyperpigmented disorders. This review may be helpful in better understanding of comparative pathophysiology and management of Vyanga and Melasma.

Keywords: Kshudra roga, Vyanga, Melasma, Ayurveda

How to Cite the Article: Raj PD, B. Swapna, Critical analysis of vyanga with melasma -A review article, JOA XIV-3, 2020; 16 - 21

Introduction:

Beautiful and flawless skin is everyone’s dream and is demand of today’s world. As the crystal clear and smooth skin reflects the personality of a person and is right of every woman. Beauty is power and a smile is its sword. Beauty is being the best possible version of yourself on the inside and out. Physical beauty and skin care are the two sides of the same coin and are intertwined with each other.

“Beautiful Women and Intellectual Men are always Praised”

Healthy and glowing complexion of the skin makes the person attractive, beautiful, and also gives self-confidence. Face is the most exposed part of the body and a prime organ of individual personality. Importance of beauty and personality is at its bloom in the aesthetics era.
determines the social perception, value judgements and interpersonal relationships. The skin would reflect any unhealthy state of the physique or the psyche, as beauty manifests through the appearance of the complexion of the skin. Skin diseases though afflicts bodily but gives a lot of psychological disturbances, whether we admit it or not, society places a high value on appearance.

In Ayurvedic literature all skin ailments are mostly concludes in the title under Kushtha or Kshudra rogas. Among many diseases concerned with cosmetic values, VYANGA is a common disease known to us from thousands of years as it decreases the complexion and affects the skin. Though it is considered as Kshudra roga (minor disease), has got a major importance as a cosmetic problem in the Society. Vyanga is characterized by the presence of Niruja (painless), Tanu (thin) and Shyavavarna mandalas (bluish – black patches) on face, occurs due to vitiation of Vata, Pitta followed by Rakta dosha\textsuperscript{[1]}. Vyanga has been mentioned as one of the Raktapradoshaj vikara\textsuperscript{[2]}, as a symptom of Chardi vegrodh janya vyadhi\textsuperscript{[3]}. The adhisthan of Vyanga is lohita layer of skin as depicted in Sushruta Samhita\textsuperscript{[4]}. Causative factors of Vyanga: Acharya Charaka did not specify the causes of Vyanga. Overall according to him, causes of pitta vitiation are responsible for Vyanga. As per Acharya Sushruta, krodha and aayasa are the main culprits of Vyanga. Madhava Nidan and Yogratnakar also support Sushruta’s point of view. According to Ashtanga Samgraha and Ashtanga Hridaya , shoka and krodha are the main causes for Vyanga.

Samprapti: Prakupitavata due to krodha and aayasa along with Pitta dosha, vitiates the Agni which resides in Rasa and initiates the pathogenesis of Vyanga. Ranjak pitta is responsible for the conversion of Rasa dhatu which results in the formation of normal skin color. However due to etiological factors like Krodha and Shoka mainly Pitta vitiation takes place which affects the Jatharagni and normal functioning of Ranjak pitta i.e. Varnopatti. Based on Ashraya –Ashrayar Bhavas, the derangement of Pitta Doshas lead to abnormality of Rakta Dhatu. Shrama and Shoka will leads to vitiation of Udana vata, which travels in body through Dhamanis and get Sthana Samshraya in mukhagata Twacha and causes vitiation of Bhrajaka Pitta giving rise to discoloration of skin\textsuperscript{[5]}.

According to Vagbhata on the basis of doshik predominance it appears as\textsuperscript{5}:

1. Vata Doshaj Vyanga: Parusha sparsha (rough on touch), shyava varna (dark brown color)
2. Pitta Doshaj Vyanga: Tamra varna (coppery color), nila varna (bluish color).
3. Kapha doshaj Vyanga: Shveta varna (whitish color) with kandu (itching sensation)

**MELASMA:**

Acquired Hyper-pigmentation disorders of the skin are among the most common complaints in a general dermatology clinic. Among those, Melasma is known for causing significant impact on Quality of life, including a negative effect on the patient’s emotional as well as social life.

**Epidemiology: The prevalence of melasma is varies between 1.5% and 33.3 % depending on the population\textsuperscript{[6]} [7]. Melasma is more common in women than in men. Its prevalence in women is around 50-70% in pregnancy stage and 8%-29% of women on contraceptive pills\textsuperscript{[8]} [9]. In men its prevalence between 20.5% - 25.38% of the cases. In men malar pattern is more common than the centro facial and mandibular patterns\textsuperscript{[10]} [11].**

**Melasma - a common dyschromia is a chronic, acquired cutaneous, relapsing hypermelanosis characterized by hyperpigmented patches on sun-exposed areas of the face, neck and forearms\textsuperscript{[12]}. Pregnant women often get melasma or chloasma known as mask of pregnancy. Birth control pills and hormone replacement medicines also can trigger melasma. Even minor changes in the cellular environment effects of melanosomes and pigmentation. The major color determinant is melanin, and racial and ethnic differences in skin color are related to the number, size, shape and distribution of melanosomes. Melanocyte Stimulating Hormone (MSH) is the major hormone controlling pigmentation. The peptide is derived from a large precursor protein produced by the pituitary. Thus,
pituitary and ovarian hormones are potent stimulators of melanogenesis\textsuperscript{[13]}

The Aetiopathogenesis of Melasma includes

- **Genetic factors:** Racial and familiar predisposition suggests that genetic factors contribute to pathogenesis of melasma.

- **UV exposure:** It is the most important triggering factor the melasma. UV radiations, directly induces the increase of melanogenic activity causing the development of epidermal pigmentation and occurring more intensity in region with melasma than the adjacent skin.

- **Sex hormones:** A female prevalence suggests a role for the female sex hormones in the pathogenesis of melasma. It is an undesirable cutaneous effect of oral contraceptives. In relation to pregnancy, melasma is considered as a common physiologic skin change due to hormonal alterations\textsuperscript{[14]}. Estrogens have a significant role in both physiological and pathological skin condition including pigmentation.

- **Drugs such as phenytoin:** About 10% of the patients receiving phenytoin develops pigmentation resembles melasma. The drug exerts direct action on melanocytes causing dispersion of melanin granules and also includes increased pigmentation in the basal epidermis but pigmentation disappears in few months after withdrawal of drug\textsuperscript{[15]}

- **Cosmetics:** Tar, hydrocarbon derivatives like benzene, xylene and poor quality of mineral oil containing cosmetics play an important role by photo toxic mechanism\textsuperscript{[16]}

### Types of Melasma:

1. **Epidermal Melasma:** Melasma occurs on outermost layers of cells of skin. It is brown in color.

2. **Dermal Melasma:** Melasma occurs in the layer that lies between epidermis and subcutaneous layer. It is greyish in color.

3. **Mixed Melasma:** Presence of Melasma in epidermis and dermis. It is dark brown in color.

### Patterns of Melasma

1) Centrofacial pattern – Forehead, cheek, nose, upper lips

2) Malar pattern – Cheek and nose.

3) Lateral cheek pattern

4) Mandibular pattern – Jawline.

Photoprotection, bleaching agents (topical hydroquinone, azelaic acid or kojic acid), retinoid, chemical peels etc are used in various combinations for its treatment. However the topical steroids are not comparatively free from adverse effects such as irritation, rash etc. Hence there is need for better and suitable method of management\textsuperscript{[17]}

**Ayurvedic Management of Vyanga:** In Ayurvedic literature, many much remedies such as both internal and external medicines are described for skin diseases. Topical application is more useful in skin disorders as it directly absorbs and acts on the lesion. Drugs such as Varnyakara, Raktashodhak, Prasadak properties are useful in the management.

1.) Nidanparivarjan\textsuperscript{[18]}

2.) Shodhan Chikitsa\textsuperscript{[19]}

- Siravedhan/ Bloodletting procedure - According to Acharya Sushrut bloodletting is done from the veins of forehead according to the proximity of the affected part, after rubbing the part, the paste of the bark of the milky trees mixed with milk should be applied, or and Bala, atibala, madhuyasti haridra or payasya, aguru and kaliyaka mixed with red ochre should be applied.

- Abhayanga- Manjishthadisneha\textsuperscript{[20]}, Kumkumadi Tailam\textsuperscript{[21]}, Kasisadighrita\textsuperscript{[22]}, sarshap tail\textsuperscript{[23]}

- Nasya- Bhringrajsvaras\textsuperscript{[24]}

3.) Shaman chikitsa:

1. For internal use –

   - Gandhpashan churna\textsuperscript{[25]}

   - Somraji churna\textsuperscript{[26]}
C. Avalgujaadi gutika
D. Khadiroudak

2. For external use – we can use the drugs of
   - Varnya Mahakashaya
   - Eladi gan
   - Arjuntvagadi lepa
   - Savarnkarlepa
   - Ingudi Majja
   - Manjishthadi lepa
   - Ayorajadi lepa
   - Kanak tailam
   - Aagardhoom tail
   - Aragsherdi lepa
   - Kaliyakadi lepa
   - Shalmali lepa
   - Masoor lepa
   - Shalmali lepa
   - Jaatiphaladi lepa
   - Navneetadi lepa
   - Dadhisaraadi lepa
   - Yavchurnadi lepa
   - Jeerakadi lepa
   - Dviharidraadi lepa
   - Varnak lepa
   - Rakshoghan lepa
   - Raktachandanaadi lepa
   - Utpalaadi lepa
   - Varuntavakhuram with Ajaadudh(Goat milk)

3. Udvartan-Shirish, Lamajjak, Naagkeasr, Lodhra
   Haritaki+Lodhra+Neempatra+Karanj+Daadim bark

CONCLUSION:

Being a common pigmented disorder, Melasma has a very deterious impact on patients, quality of life as a psychological trauma. Vyanga is described in ayurvedic texts in kshudra roga. In Ayurveda treatices there is a good answer to this disease because it has a great treasure of single and compound drugs able to breakdown the samprapti of Vyanga.

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सारांश:

श्रुद्र रोग मामूली त्वचा रोगों को संदर्भित करता है। श्रुद्र रोग दो शब्दों से मिलकर बना है यानि श्रुद्र और रोग। श्रुद्र का अर्थ है अल्प और रोग का अर्थ है रोग। अत: श्रुद्र छोटे रोग है। आचार्य तुच्छ ने 44 श्रुद्र रोग का उल्लेख किया है। जिसमें से लंगा एक आम श्रुद्र रोग है जैसा कि चेहरे का संक्रम किसी वयस्की की सुंदरता और शरीर को प्रभावित करता है। मेलस्मा एक सामान्य अवसर पर अभिप्रेरित है और मेलस्मा साहित्य में हाइपरमेलस्मासिस है जो अनिवार्य समृद्धि के साथ कम या ज्यादा गहरे भूरे रंग के मैक्सर्कुट के विशेषता है, लेकिन विशेष रूप से फोटो-उजागर क्षेत्रों पर विशेष रूप से चेहरे, माथे, मंदिरों और अवधिक शायद ही कभी नाक, पलकें, ठोंकर और ऊपरी होंठ पर। तो और आवश्यक से यथायथ, पिटा के साथ जुड़ जाते हैं और चेहरे पर निरुजा (वर्दऱ्य रहत) और शरीरवर्ण मंडलों (मीले-काले पैर) का निर्माण करते हैं। नैदानिक सुविधाओं के साथ पर इसकी तुलना चेहरे के मेलस्मास के साथ की जा सकती है, जो हाइपरमेलस्मासिस एवं की तलना का हो सकता है। यह समीक्षा तुलनात्मक तैयारीकृत जियोलॉजी और यंगा और मेलस्मा के प्रभाव के बेहतर समझ में सहायक हो सकती है।
ABSTRACT

Classical texts of ayurveda had outlined about aahara in various contexts like aaharavarga, aahara kalpana, pathya apathyaa of various diseases etc. While detailing the characteristics of prakriti, acharya have mentioned the satmya rasa, guna etc. for each prakriti. Aahara improve nutrition, immunity and health when used in proper time and in a suitable individual. Here, the present review had compiled different aahara kalpana and aaharavarga mentioned in authentic Ayurveda texts according to its action in different prakriti. The analysis of aharavarga and ahara kalpana had been done according to its bhuta adhikya, rasa, guna, virya,a ndvipaka; along with satmya and asatmy ahava of prakriti. Similarly, this review has analyzed and categorized hita & ahitaahara for different prakriti. Analysis of the compiled data reveals that, an individual with Vataprakriti is found to be satmya for madhura-amla-lavana rasa; snighdha-ushna-guru-sthira-slakshnaguna; ushnnavirya; madhura-amlaviipaka; prithvi-ap-tejobhutapradhanadravya; and Pitta prakriti individual is satmya for kashaya-tikta-madhura rasa; rooksha-manda-sheeta-guru-sthiraguna; sitavirya; madhuravipaka; vayu-aakashaprithvibhutapradhanadravya; and Kaphaprakriti individual is satmya for katu-tikta-kashaya rasa; ruksha-ushna-laghu-teekshna-khara-vishada-saraguna; ushnnavirya; katuvipaka; agni-vayu-aakash abhuta Pradhan adravya. Hence, this study accommodate the diet planning process of each prakriti and thus, improve prevention of diseases and promotion of healthy life of the individuals.

Keywords : Prakriti, Aahara, Pathya, Apathya, Satmya, Asatmya, Ayurveda

How to Cite the Article : PC Prachisha, Nathani S, Review on aahara according to prakriti, JOA XIV-3, 2020; 22 - 29

Introduction:

Prakriti is said as the “Sareera Swabhava”,[1] which means the body temperaments. Each of us is born with a genetically determined constitution, or Prakriti which establishes our natural body type and determines our strength and weakness. The Prakriti of a person is decided from the womb itself in the very first stage i.e., pindaakara and it is determined by the sukra, aarthava,
kaala garbhasaya prakriti (season and condition of uterus), garbhini bhojya and garbha sareera (nature of the mahabhuta comprising the foetus). As visha forms the Prakriti in vishakrimi, similarly in human the doshas-vata, pitta and kapha forms the Prakriti. The Prakriti once established at birth, it will never get changed.

Our body as well as diseases are caused by food; wholesome and unwholesome food are responsible for happiness and misery respectively. As per Caraka acharya our body is constituted of food. Hence one should take wholesome food only after careful examination and should not indulge in unwholesome ones out of greed or ignorance. But in the present world of globalization where the whole world is available in our fingertip, out of greed people think only about the taste and not the effect. People are very conscious of their health but due to intellectual blasphemy, ignorant indulge in unwholesome gratification of five senses, suppression of natural urges, exposure to strain beyond their capacity and adoption of such of the regime as are pleasing them temporarily.

**MATERIAL AND METHODS:**

In the present review the characteristic features of vata, pitta and kapha prakriti and the basic principles of Ayurveda, like Panchamahabhuta sidhanta, Tridosha sidhanta, Shad-rasa, Vimshati-Guna, Virya and Vipaka are analysed according to the Prakriti. Various Aahara kalpana and Aaharavarga mentioned in ayurvedic classical texts are analysed and categorised according to each Prakriti.

**RESULTS AND ANALYSIS:**

To analyse the aahara kalpana and aahara varga according to Prakriti, it is necessary to know about the characteristic features of different prakriti and the relation of each prakriti with the basic principles of Ayurveda. By considering the Tridosha sidhanta and samanya-visheshasi dhanta the following tables are made.

**Characteristic features of different prakriti:**

**Vata prakriti lakshana:** Vata is ununctuous, light, mobile, and abundant in quantity, swift, cold, rough and non-slime. Because of these qualities, individuals having vatala type of constitution are mostly possessed of strength, span of life, procreation, accessories of life and wealth in lesser quantity. Individuals with a Vata-dominant body type tend to be thin and active, but lack the strength for prolonged activity. The dryness of the Vata constitution and the consequent creakiness of their joints make them seem almost brittle. Restlessness, hyperactivity, curiosity, and creativity mark the Vata-dominant personality, as do rapid, chaotic speech and frequent changes of mind.

**Pitta prakriti lakshana:** Pitta is hot, sharp, liquid, of fleshy smell, sour and pungent. Due to manifestations of these attributes, individuals having pittala type of constitution are mostly endowed with moderate strength, moderate span of life, moderate spiritual and materialistic knowledge, wealth and the accessories of life. Pitta is the fire itself or born from fire, hence persons having predominance of pitta, have very severe thirst and hunger, white and warm body. The Pitta-dominant body type typically manifests itself in a well-proportioned, muscular frame. Pitta-dominant types tend toward lighter, more sensitive skin, often overly sensitive. They are usually active, particularly in sports, where they can be fiercely competitive. They are passionate and dedicated, but can be overly competitive, intolerant, and irritable.

**Kapha prakriti lakshana:** Sleshma is unctuous, smooth, soft, sweet, firm, dense, slow, stable, heavy, cold, viscous and clear. Due to these qualities, an individual having sleshmala prakriti is endowed with the excellence of strength, wealth, knowledge, energy, peace and longevity. Sleshma is soma, hence persons of Kapha prakriti are mild in nature and possesses big bodies and big bones, thick hair, strong, big teeth, and large, attractive eyes. They move slowly and gracefully, and exhibit great endurance. They are not much troubled by hunger, thirst, troubles, strain and heat. They are similarly slow to anger, and their loyalty makes them valued friends. Physically, Kapha-dominant individuals tend toward obesity; mentally, they can be selfish, greedy, and easily offended.

**Aahara according to Panchamahabhuta ghatana:**

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According to Ayurveda, every substance is made up of Panchamahabhuta.\textsuperscript{[12]} So it is necessary to analyse aahara for each Prakriti on the basis of its bhutadikya to know whether it is wholesome or not.

**Table no. I: Aahara according to Panchamahabhuta ghatana**

<table>
<thead>
<tr>
<th>S. N.</th>
<th>Prakriti</th>
<th>Bhutadikya\textsuperscript{[13]}</th>
<th>Recommended bhutaghatana of aahara</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vata</td>
<td>Vayu, Aakasha</td>
<td>Prithvi, Jala</td>
</tr>
<tr>
<td>2</td>
<td>Pitta</td>
<td>Agni</td>
<td>Vayu, Aakasha, Prithvi</td>
</tr>
<tr>
<td>3</td>
<td>Kapha</td>
<td>Jala, Prithvi</td>
<td>Agni, Vayu, Aakasha</td>
</tr>
</tbody>
</table>

**Aahara according to Shad-rasa:**

Aahara is rasapradhana\textsuperscript{[14]}. While detailing the properties of Prakriti, Aacharya have mentioned the tastes preferred by each Prakriti and beneficial for them. Vataprakriti is desirous of habituation to sweet, sour, salty and hot foods.\textsuperscript{[15]} Pittaprakriti consume food which is sweet, astringent, bitter and cold.\textsuperscript{[16]} Kaphaprakriti consume food which is bitter, astringent, pungent, hot, dry and less in quantity.\textsuperscript{[17]} Aahara on the basis of Shad-rasais mentioned on the basis of Shad-rasa and dosha relation\textsuperscript{[18]}

**Table no. II: Aahara on the basis of Shad-rasa:**

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Prakriti</th>
<th>Hita rasa</th>
<th>Ahitarasa</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vata</td>
<td>Madhura, Amla, Lavana</td>
<td>Katu, Tiktha, Kashaya</td>
</tr>
<tr>
<td>2</td>
<td>Pitta</td>
<td>Kashaya, Tiktha, Madhura</td>
<td>Katu, Amla, Lavana</td>
</tr>
<tr>
<td>3</td>
<td>Kapha</td>
<td>Katu, Tiktha, Kashaya</td>
<td>Madhura, Amla, Lavana</td>
</tr>
</tbody>
</table>

**Aahara according to Vimshati Gunas:**

The Gunahita and ahita for each Prakriti is recommended on the basis of the guna of each dosha.\textsuperscript{[19]}

**Table no. III: Aahara according to Vimshati Gunas:**

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Prakriti</th>
<th>Hitaguna</th>
<th>Ahitataguna</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vata</td>
<td>Snigdha, Guru, Ushna, Shlakshna, Sthoola, Sthira</td>
<td>Ruksha, Laghu, Sheeta, Khara, sookshma, Chala</td>
</tr>
<tr>
<td>2</td>
<td>Pitta</td>
<td>Rooksha, Manda, Sheeta, Guru, Sthira</td>
<td>Snigdha, Teekshna, Ushna, Laghu, Sara, Drava, vidahi</td>
</tr>
<tr>
<td>3</td>
<td>Kapha</td>
<td>Ruksha, Ushna, Laghu, Teekshna, Khara, Vishada, Sara</td>
<td>Snigdha, Sheeta, Guru, Mandha, Slakshna, Mrutsna, Sthira, Pichila, Abhishyandi</td>
</tr>
</tbody>
</table>

**Aahara according to Virya:**

Oushadha is ViryaPradhan\textsuperscript{[20]}. When one take aahara considering its virya, it will be effective as an oushadha also. Aahara according to Virya is mentioned on the basis of virya and dosha relation.\textsuperscript{[21]}

**Table no. IV: Aahara according to Virya:**

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Prakriti</th>
<th>HitaVirya</th>
<th>AhitaVirya</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vata</td>
<td>Ushna</td>
<td>Sheeta</td>
</tr>
<tr>
<td>2</td>
<td>Pitta</td>
<td>Sheeta</td>
<td>Ushna</td>
</tr>
<tr>
<td>3</td>
<td>Kapha</td>
<td>Ushna</td>
<td>Sheeta</td>
</tr>
</tbody>
</table>
Aahara according to Vipaka:
The Vipaka according to the Prakriti is recommended on the basis of the relation of vipaka with dosha.[22]

Table no. V: Aahara according to Vipaka:

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Prakriti</th>
<th>Hita Vipaka</th>
<th>Ahita Vipaka</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vata</td>
<td>Madhura, Amla, gurū</td>
<td>Katu, laghu</td>
</tr>
<tr>
<td>2</td>
<td>Pitta</td>
<td>Madhura, gurū</td>
<td>Amla, Katu, laghu</td>
</tr>
<tr>
<td>3</td>
<td>Kapha</td>
<td>Katu, laghu</td>
<td>Madhura, Amla, gurū</td>
</tr>
</tbody>
</table>

Aaharavargas and kalpanas according to Prakriti:
Aaharavargas and kalpanas mentioned indifferent classics are compiled and tabulated as below

Table no. VI: Hita Aaharavargas and kalpanas:[24]

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Aahara Varga and Kalpana</th>
<th>Hita for VataPrakriti</th>
<th>Hita for PittaPrakriti</th>
<th>Hita for KaphaPrakriti</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sukadhanya Varga[24]</td>
<td>Raktashali, Shashtik, Godhuma</td>
<td>Raktashali, Syamaka, Koradusha, Nivar, Gavedhuka, Venuyava</td>
<td>Raktashali, Syamaka, Koradusha, Nivar, Gavedhuka, Yava, Venuyava</td>
</tr>
<tr>
<td>3</td>
<td>Mamsa Varga[26]</td>
<td>Prasaha, Bhusaya, Anupa, Vairja, Varicharina, Swan, Cock, Partridge, Hare, Pork, Buffalo</td>
<td>Goat, Partridge, Pigeon, Hare</td>
<td>Goat, Partridge, Hare</td>
</tr>
<tr>
<td>4</td>
<td>Saka Varga[27]</td>
<td>Patha, Susha, Sat, Vastuka, Kakamachi, Sunishhanna, Rajaksvaka, Kalasaka, patol, sigru</td>
<td>Patha, Susha, Sat, Vastuka, Kakamachi, Sunishhanna, Rajaksvaka, Kalasaka, Changeri</td>
<td>Patha, Susha, Sat, Vastuka, Kakamachi, Sunishhanna, Rajaksvaka, Kalasaka, Changeri</td>
</tr>
<tr>
<td>6</td>
<td>Harita Varga[29]</td>
<td>Aardrak, Baalamoolaka, Suraka, Dhanyaka, Grinja, Pandalu, Lasuna</td>
<td>Dhanyaka</td>
<td>Aardrak, Jambira, Baalamoolaka, Surasa, Dhanyaka, Grinja, Pandalu, Lasuna</td>
</tr>
<tr>
<td>7</td>
<td>Madhya Varga[30]</td>
<td>Sura, Madira, Jagala, Surasava</td>
<td>Maadhvika</td>
<td>Jagala, Arishta, Madhvasava</td>
</tr>
<tr>
<td>8</td>
<td>Gorasa Varga[31]</td>
<td>Go, Mahisha, Ushtra, Ekasapha, Ksheera ; Dadhi, Dadhimanda, Ghrita, Peeyusha, Morada, Kilaata</td>
<td>Go, Aja, AaviKsheera; Ghrita</td>
<td>Ushtra, AaviKsheera; Dadhimanda, Takra</td>
</tr>
</tbody>
</table>
DISCUSSION:

For proper maintenance of positive health, one should first of all eat in proper quantity. Quantity to be eaten depends upon the power of digestion and metabolism. This, of course, applies to the eating of food and not of drugs, as Aahara is Rasapradhana. The power of digestion and metabolism, upon which depends the quantity of food intake, again varies according to the season as well as the age and prakriti of the individual. Thus, the quantity of food to be taken depends upon a number of factors.

Ayurveda texts provide detail description of various aspects of Aaharadravya and Aaharavidhi. General
guidelines regarding effect of rasaadhi properties on dosha and respective prakriti along with basic nature of individual food items (classified in various food groups) is mentioned in every classical treatise. Effect of food on body depends upon eight factors which are discussed under ‘ashtaaaharvidhivisheshaaytan’ and these are to be kept in mind while planning meals for each individual. Numerous food preparations are discussed in detail regarding their properties and effect on tridosha and ultimately health.

As we know that the prime objective of Ayurveda science is the maintenance of the equilibrium of tissue elements. One who takes diet according to digestive power, being aware of the wholesomeness of food and drinks enjoy bless without any disease during the present as well as future lives.[37]

CONCLUSION:

Based on theoretical ground, in healthy normal individual of Vata, Pitta and Kapha prakriti Vata, pitta, Kaphadoshashamakaaahra are hita respectively and Vata, Pitta and Kapha Dosha vrdhi kara aahara are ahit respectively. However in case of two or more dosha involvement aahar should be such which do not disturb the equilibrium of dosha in body. Thus, intake of aahara according to prakritiwill be helpful in preventing the occurrence of many aaharajanyavyadhi.

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आयुर्वेद के शास्त्रीय ग्रंथों में विभिन्न आहार वर्ग, आहार कल्पना, विभिन्न रोगों के पथ्य अपथ्य आदि जैसे आहार के बारे में बताया गया है। जबकि प्राकृति की विवेशताओं का विस्तार करते हुए आचार्य ने प्रत्येक प्राकृति के लिए सतत्स रस, गुण आदि का उल्लेख किया है। जब उचित समय और उपयुक्त व्यक्ति में उपयोग किया जाता है तो आहार पोषण, प्रतिष्ठा और स्वास्थ्य में सुधार करता है। यहीं, वर्तमान समीक्षा ने विभिन्न प्राकृति में अपनी क्रिया के अनुसार प्रामाणिक आयुर्वेद ग्रंथों में उल्लिखित विभिन्न आहारवर्ग, आहारकल्पना का संकलन किया था।

आहार वर्ग और आहार कल्पना का विशेषण इसके भूततत्त्विक, रस, गुण, वीर्य और विपक्ष के अनुसार किया गया था; प्रकृति के सात्त्व और असात्त्व भाव के साथ। इसी प्रकार, इस समीक्षा ने विभिन्न प्रकृतियों के लिए हित और अहिताहार का विशेषण और वर्गीकरण किया है। यह अध्ययन प्रत्येक प्रकृति की आहार योजना प्रक्रिया को समायोजित करता है और इस प्रकार, रोगों की रोकथाम और व्यक्तियों के स्वस्थ जीवन को बढ़ावा देता है।

PC Prachisha, Nathani S, Review on aahara according to prakriti, JOA XIV-3, 2020; 22 - 29
LITERARY REVIEWS

An Insight into Anthropology from Ayurveda perspective

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ABSTRACT

Objective.: To appraise the contribution of Ayurveda science in anthropology.Data Source: The data source is of secondary type which includes Ayurveda classical texts, modern literature viz. as journals and websites related to anthropology.Review Methods; The review method adopted was critical review in which classical and contemporary literature pertaining to anthropology was extensively researched and critically evaluated. Conceptual contribution of Ayurveda science in the field of anthropology has been symbolized. Result, and Conclusion; In Ayurveda every emphasis is laid to give a detailed account of possible angles of human life right from the evolution, existence and up to death. The origin of human being is explained in a philosophical way from avyakta (unmanifest) which is regarded as the eventual basis of evolution. Three stages namely unmanifest, manifested and unmanifest along with the passion and delusion as the cause of birth and death have been explored scientifically. Physical characters and certain psychological characters have been explained on the basis of dosha prakriti. Evolutionary developments of human physical characters have been explained from five proto-elements. The human behaviour is determined by the variations in psychological states (satva) viz. as shuddha (pure), rajasa (passionate) and tamas (ignorant). Means and importance of social and cultural maturity have been dealt in an excellent way. Few examples in texts enlighten acharyas well acquaintance to genetics also. Adaptability to beneficial dietary measures and life style is encouraged. A detailed description of three types of desha (regions) such as jangal (dry), anupa (tropical) and sadharana (normal) and their contamination, detrimental weather changes along with their management by rejuvenator and purification therapies has been given. Thus Ayurveda preserves its own approach in anthropology.

Keywords: Anthropology, Ayurveda, evolution, satva, desha

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Introduction:

Human anthropology is the scientific study of the origin, the behavior, and the physical, social, and cultural development of human. The science of Ayurveda has been documented as the outcome of series of experiments through a long course in a naturalistic way. Analysis of
each field of science in the purview of scientific exploration and incorporation within an oceanic compendium signifies the categorical in sightedness. In Ayurveda every emphasis is laid to give a detailed account of possible angles of human life right from the evolution, existence and up to death. Anthropological considerations were also not untouched. Anthropology is a unique science that has its origins in the natural sciences, the humanities and the social sciences. The study of the human behavior and the physical, social and cultural development of humans were being carried out to enhance the practical acquaintances.

Though the definite term is not mentioned in Charaka Samhita but every aspects of anthropology demarking the domain of anatomy have been dealt with ultimate authentication. Complete physical and social health has been pointed out as the supreme goal of human life. On account of that the studies of social science disciplines have been properly assimilated within this science. In depth examination of context, place, cross cultural comparison, experimental immersion, participant observation etc. of anthropological aspects are analyzed and documented significantly. In that time anthropological thinking was deeply associated with other social sciences. Gradually jurisprudence, history and sociology evolved along with social science of which anthropology was a branch. The logical and analytical glimpses of physical and cultural development of human in different periods of time have been documented in scientific way. The origin of human and mechanism of biological evolution have categorically been made. Detailed descriptions of anthropological characters have been described in successive segments.

Aims and Objectives: To comprehensively appraise the contribution of Ayurveda science in anthropology.

Materials and Methods: Exhaustive study of Ayurveda classical texts was done to scrutinize the significant anthropological issues.

Literary Review:

Origin of Human:
The origin of human being is explained in a philosophical way in Ayurveda. Acharya Charaka regards avyakta (unmanifest) as the ultimate cause of evolution. He considers it the soul. According to acharya charaka unmanifest led to development of buddhi (intellect) which progressed to (ahamkar) egoism. From egoism five minute proto-elements and eleven senses developed. The unmanifest, intellect and egoism represent the psychological aspect while five protoelements and eleven senses constitute physical side and together they constitute the whole living entity. At the time of death the soul gets separated from the rest of parts and again becomes unmanifest . Ayurveda considers the continuous engagement of oneself in delusion and passion as the cause of birth and death.

The Mechanism of Biological Evolution:
The mechanism of biological evolution has been considered. The entire process from unmanifested self to the man adorning with all faculties are vividly described. Three stages namely unmanifest, manifested and unmanifest along with the passion and delusion as the cause are explored scientifically. The parametric consideration of creation and dissolution process has been made.

Physical Development of Human:
Chronological physical development of the human being from the very beginning state of jelly-like unshaped mass up to the development of mature fetus considering every possible scientific angle has been documented. Prenatal, postnatal, perinatal, infants, toddler and adolescence stages are also analyzed.

Character of Human Being:
Physical character including liking, disliking, dealings, built, initiation of work, lusture, complexion, bodily character like muscle, hairs, body strength, pain threshold have been mentioned under the heading of dosa prakriti. On the contrary study on subtle and exceptional psychosomatic aspects have been carried out and documented in sara purusa. A detailed characteristic of mental faculties in the form of pure, passionate and ignorant group and their seven, six and three subtypes respectively are analyzed accordingly in the purview of
characteristic behaviors and instinct.

Evolutionary Development of Human Physical Character:
As human body is made up of five proto-elements hence development of firm solid heavy rough structures such as nails bones teeth flesh hair tendon etc are predominantly formed from earth element. Fluid mobile soft viscid mucilaginous structures e.g. blood bile urine etc are made up of predominantly water heat radiating luster and color are attributed to agni or fire element. The inhalation exhalation movements of body sense of touch are due to air proto-element. The porosity in body gross and minute channels in the body is preferable to ether proto-element.

Behavior of Human Beings:
Behavior is the internally coordinated response (actions or inactions) of living organisms (individuals or groups) to internal and/or external stimuli. Human behavior is supposed to be influenced by the endocrine system and the nervous system. It is most commonly believed that intricacy in the behavior of an organism is correlated to the involvedness of its nervous system. In Ayurveda also human behavior is determined by the variations in psychological states (satva) and is divisible primarily into three types viz. as shuddha (pure), rajasa (passionate) and tamasa (ignorant). Acharya’s minute observations led to further classification of these demeanors e.g. seven varieties of satvika behavior, six types of rajas and three types of tamas behavior. They have further indicated towards innumerable variations due to a large number of differences in human behavior. The uniqueness of these behaviors has been illustrated very precisely. People of satvika conduct are honest, energetic, endowed with wisdom, brilliance and intelligence, free from anger, greed, confusion, envy. Rajasika types of persons are covetous, pitiless, cruel, envious, disinclined to work, fickle minded, intolerant, non acquisitive and are devoted to food and recreational pleasures. Tamasika people are fearful, stupid, dull, lazy and exclusively devoted to eating. Thus satvika type of people have standard psychology therefore are devoid of mental illnesses while the rest are pathological psychological states and thus are prone to develop mental illnesses. Hence the basic aim of this classification was to identify the people at risk of developing mental illnesses and their management. As Ayurveda is also a spiritual science therefore the conduct by which salvation is achieved is also mentioned very sufficiently.

Human adaptability:
Adaptability (Latin: adaptō "fit to, adjust") is a developmental attribute of an organism. In ecology, adaptability has been described as the skill to cope with unanticipated disturbances in the environment. In Ayurveda adaptability means the adoption of those dietary measures and life style which are beneficial to the health of an individual. It includes those measures also which have been made acclimatized to body by continuous use and should be started in prenatal period i.e. by the expecting mother so as have a baby with optimum physical and psychological health. Its three types viz. strong, medium and less according to usage of different types of tastes of food has been described and strong adaptability to intake of beneficial substances e.g. ghee, milk, oil, meat soup and food items encompassing all the types of tastes have been encouraged. Such persons attain great strength. Ideal dietary adaptation also includes the consideration of the natural qualities of food, quantity of food, method of preparation, combination of the foods, timings of food and mental calmness during taking meals etc. Acharya have also given a detailed description of dietetics and modes of living in different seasons. Moreover homologation to unwholesome diets have been strictly discouraged and if it occurs then a scientific technique of its gradual withdrawal and on its place intake of wholesome food is suggested by learned ancient sages.

Human variability:
Human variability, or human variation, is the assortment of possible values for any measurable trait, physical or mental, of human beings. Differences can be minor or important, transient or permanent, voluntary or involuntary, congenital or acquired, genetic or environmental. Furthermore, the social value put on these differences by the society in which one lives affects...
every aspect of a person’s life. In Ayurveda sources of variablities among human beings include shukra shonita prakriti (biological inheritance, shaped by mutations, allelic differences, genetic drift, natural selection), maturaharaviharaprakriti (prenatal environment, nutrition and quality of life of expecting mother) and mahabhubatavikaraprakriti (nature of the combination of proto-elements).

**Genetic Inheritance:**

Inheritance is the passing of traits to offspring from its parents or ancestor. This is the process by which an offspring cell or organism acquires or becomes liable to the uniqueness of its parent cell or organism. The study of heredity is called genetics. In modern science of genetics, understanding of this process, began with the work of Gregor Mendel in the mid-19th century. Inheritance in organisms occurs by passing distinct heritable units, called genes, from parents to progeny. In Ayurveda science there are certain examples which signify Acharya’s acknowledgement to genetics e.g. their terms beeja (chromosomes), beejabhaga (genes) and beejabhagavayava (alleles) given in context to congenital defects. Clear mentioning of development of certain organ and fetus such as skin, muscles, pancreas, spleen, bladder from maternal beeja (chromosome) and development of bone, veins, ligaments, arteries from paternal chromosome. There are descriptions of certain measures to change the sex of baby if applied in very early pregnancy or before conception indicating their attempt to work on genetic level. In addition they have also mentioned the aberrations in maternal and paternal beeja (chromosomes) and abnormal maternal diet and lifestyle results in congenital defects. In the same perspective prameha (diabetes mellitus) is regarded as a familial disease.

**Environment of human beings:**

Environment comprises of the physical and biological factors along with their chemical interactions that affect an organism. The natural environment includes all living and non-living things occurring naturally on Earth. Climate, weather, and natural resources that affect human survival and economic activity are also included in environment. Ayurveda defines the environment as surroundings in which human beings live. As Ayurveda is a spiritual science as well and salvation is considered the ultimate aim therefore in this direction ancient sages consider a living organism similar to his environment e.g. soil of external environment is represented by solid parts of body, water by fluid content in body and air as life force, tamah (darkness) represented by moha etc. A vivid description of three types of regions such as jangala (dry), anupa (tropical) and sadharana (normal) have been described. The Acharyas have very nicely portrayed the characteristics of air pollution, water pollution and soil pollution and harmful weather changes. They have also put a light on diseases occurring as a result therapies of contamination and their management by rejuvenation, purification. Ayurveda acclaims performance of unrighteous act as the basic cause of pollution, therefore following a strict discipline of code of conduct has been recommended.

**Cultural development of human being:**

Culture (Latin: cultura, lit. "cultivation") is a concept based on a term first used in classical ancient times by the Roman orator Cicero: "cultura animi" (cultivation of the soul). In modern Europe in the 17th century the term "culture" referred to the betterment or development of individuals, especially through education. Few scientists such as Edward Tylor used the term "culture" to point the universal human capacity. In the 20th century, "culture" emerged as a fundamental concept in anthropology, encompassing the range of human phenomena that cannot be directly accredited to genetic inheritance. In Ayurveda a lot of literature consisting of several physical and psychological deeds is available for the cultural growth of a human being. A lot of emphasis has been given for cultural growth to lead a supreme healthy life. A person becomes culturally developed when he is nonviolent, is knowledgeable, keeps good control on his senses and is keen in attaining factual knowledge.

**Cross cultural comparison:**

In Ayurveda gross cultural differences have been...
explained from first primal or golden ages onwards. In the primal age (kritayuga/satyuga) humans were endowed with a great vitality, spiritual endeavor, charity, moral discipline etc and were free from fear, desire, greed, anger, pride, disease, fatigue. They were endued with unlimited longevity. At that time crops were replete with great potency and earth was full with all excellent qualities. With the passage of time in treta yuga (silver age period) people were afflicted with lassitude then indolence and then ultimately with greed. There was deterioration in psychological qualities of human beings and in the beneficial power of the earth. Hence quality of food also deteriorated thus there was a gradual decline in the life span of successive generations and rise in attacks of diseases. Cultural differences regarding unwholesome food habits of people living in different regions were also depicted by ancient sages e.g. constant use of alkali by eastern and Chinese people and excessive use of salt by people of bahlika, sind and saurashtra.

Social development:

A person who is able to establish himself with in the domain of social circle and gives significant contribution for the development of society is regarded as socially developed person. In Ayurveda the characteristics of the same have been mentioned e.g. the one who is free from psychological or physical illness, is young and wealthy and who is well acquainted with best physical and mental faculties.

Discussion:

The term “Anthropology” comes from the Greek root “antropos” (man) and “logos” (treaty). This then forms the denomination of this marvelous science under the following terms: Treaty about man. It is man who has been and is the eternal protagonist of the history. Hence we cannot overlook his achievements, his evolution, his conquests in all fields of human knowledge, his incursions into the development of social thought, his adventures derived from amazing discoveries. Undoubtedly, there is nothing more exciting than the study that we make of the humans in all its facets. Ayurveda science is an eternal science and is as old as the humanity is. It was brought to earth by ancient revered saints for the absolute welfare of humans. Though primarily it is a therapeutic science still this holistic science has incorporated all the important factors essential for social, cultural, intellectual, behavioral development of human beings as the prime thought of Ayurveda is to lead an ideal full span of life.

Conclusion:

Anthropology encompasses the origins, physical and cultural development, biological characteristics, and social customs and beliefs of humankind. In Ayurveda right from the unmanifested self, eightfold nature and their modification have been categorically elucidated in context of origin of human being. Entire theme has been analyzed and presented on the basis of philosophical thought and in the purview of clinical practice. Diverse physical characters have been mentioned in dosha prakrati section. A detailed characteristic of mental faculties in the form of pure, passionate and ignorant group and their subtypes are analyzed according to characteristic behaviors and instincts. Physical anthropology in the form of genetic inheritance, human adaptability and variations, the evolutionary development of human physical characteristics and the differences in appearance among the people of the different parts, as distinct from cultural differences are mentioned scientifically. Means to acquire cultural and social development are acknowledged by citation of several dos and don’ts in classical texts. An ideal cultured and socially developed person is endowed with best physical and psychological traits. Therefore it may be concluded that Ayurveda science assimilates significant domains of anthropology.

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अर्थांश:
उदेश्य: मानव विज्ञान (एन्स्मोपोलोजी) में आयुर्वेद विज्ञान के योगदान का मूल्यांकन करना।
डेटा स्रोत: डेटा स्रोतें विश्वक्षेत्र कैसे है जिसमें आयुर्वेद शास्त्रीय ग्रंथ, आधुनिक साहित्य, एन्स्मोपोलोजी से संबंधित पत्रिकाएं और वेबसाइट शामिल किये गये हैं।
संग्रह दर्शन अपनाई गई समीक्षा पद्धति आलोचनात्मक संग्रह थी जिसमें एन्स्मोपोलोजी से संबंधित शास्त्रीय और समकालीन साहित्य का बड़े पैमाने पर शोध किया गया और गंभीर रूप से मूल्यांकन किया गया। एन्स्मोपोलोजी के क्षेत्र में आयुर्वेद विज्ञान के वैचारिक योगदान को इंगित किया गया है।
परिणाम, और निष्कर्ष एन्स्मोपोलोजी ऐसा वैशिक क्षेत्र है जहां मानवीय विज्ञान, सामाजिक विज्ञान व आर्थिक विज्ञान का एक दूसरे से संबंधित दृष्टिगोचर होता रहता है। यह विज्ञान मनुष्य की उत्पत्ति, विकास, शारीरिक गुण, मानसिक व्यवहार व मनुष्य की आपसी विविधता से परिचय कराता है। आयुर्वेद शास्त्र में मानव जीवन की उत्पत्ति, क्रिकेट विकास से लेकर मृत्यु तक के विभिन्न कोणों पर विस्तृत प्रकाश डाला गया है। मानव जीवन की उत्पत्ति व विकास का प्रथम चरण दाबीतिक मतानुसार 'अवज्ञ' परिलोकित किया गया। जीवन की उत्पत्ति व मृत्यु के मुख्य कारण रज व तम से जीवन का संबंध अवज्ञ हो वैशिक दृष्टिकोण से प्रतिस्थापित किया गया है। शारीरिक व मानसिक लक्षण 'जिदोक' शिष्टाचार के आधार पर स्पष्ट किये गये हैं। मनुष्य के शारीरिक लक्षण का क्रिकेट विकास पंचमहान्तों के अनुसार वर्णित किया गया है।
मानसिक व्यवहार के लक्षण मुख्य रूप से मन की अवस्थाओं की विविधता के अनुसार वर्णित किये गये हैं, यथा शुद्ध सत्य, रजस सत्य व दानस सत्य। इसके अतिरिक्त मनुष्य के सामाजिक व आर्थिक प्रभाव के विभिन्न उपयोग आदर्शों ने प्रकट किया अनेक रूपों पर इंगित किये हैं।

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CASE STUDY

An ayurvedic approach to the management of darunaka with sheetapitta: a case study

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ABSTRACT

Dandruff and Urticaria are few of the most common worries in adulthood. Dandruff, the visible desquamation of scalp, is the mildest manifestation of seborrheic dermatitis. Chronic urticaria has a significant impact on quality-of-life due to the constant sensation of itching, regular recurrence, and unknown etiology. Dandruff can be considered as Darunaka in Ayurvedic parlance possessing resemblance in their clinical manifestations. Similarly, Urticaria can be correlated with Sheetapitta. Urticaria and Dandruff, both conditions do not have any satisfactory cure in contemporary system of medicine, relapses being the main cause for inclining towards Ayurvedic system of medicine. 

Ayurveda can provide a virtuous effect in dandruff with the help of Panchakarma procedures, daily regimen, and many Aushadha Yoga. A 25 years old patient approached with complaints of Shirah Kandu (Itching over scalp), Keshabhoomi Rukshata (dryness of scalp), Twak Sphutana (~Cracks in the skin), and Kesha Chyuti (~Hair fall). He also had itchy rashes over his trunk region. In present case, classical Shodhana (Major purification therapy) was planned followed by Shamana (~Pacification) drugs. The improvement provided by the Shodhana therapy was assessed based on sign and symptoms before and after the treatment. The therapies were found effective in controlling sign and symptoms of Darunaka and Sheetapitta.

Keywords : Dandruff, Darunaka, Samshodhana, Sheetapitta, Urticaria

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Introduction:

Hair is associated with youthfulness and beauty in women and virility and masculinity in men; so, it is no surprise that hair loss can make any men and women feel self-conscious. Pollution, unhygienic conditions, and many more factors can cause hair problem. Studies show a prevalence of dandruff of up to 50%. Dandruff
is an irritative disease of the scalp in which shedding of dead tissue from the scalp with itching sensation is the cardinal feature. ‘Urticaria’ is a disease characterized by itchy red rashes on skin almost all over the body. An estimated 15% to 23% of adults have experienced at least 1 episode of acute urticaria at some time in their lives, and the prevalence of chronic urticaria in adults is estimated at 0.5% to 5%. However the disease is not a life threatening disorder, the distress caused by Urticaria seriously affects the quality of life.

Darunaka is a Vatakapha Dosha (regulatory functional factors of the body) Predominant Disease, which manifests as Kandu, Keshachyuti, Rukhsa, and Twak Sphutana, which can be correlated with Dandruff. In present case, patient suffering from Dandruff and urticaria after having been under allopathy treatment for same complaint for more than 6 years, but without persistent relief and continuous reoccurrence of symptoms was treated with classical Vamana Karma (~Therapeutic emesis) followed by Virechana Karma (~Therapeutic purgation). Shamana Chikitsa was followed thereafter for one month.

CASE REPORT

A 25 years male patient, diagnosed with seborrheic dermatitis and Urticaria in Allopathy, approached with chief complaints of dryness in scalp, dandruff, and excessive hair fall. He also had associated complaints of rashes over anterior and posterior trunk region with excessive itching and sweating for more than 6 years that would exacerbate with seasonal transition. Patient was diagnosed based on signs and symptoms as a case of Darunaka along with Sheetatpitta. Patient belonged to Jangala Pradesha, was a married graduate from Lower middle class. The Sharirika Prakriti (~Body constitution) of the patient was Vatakaphaja and Manasika Prakriti (~Mental constitution) was Rajasika. He had Madhyama Samhanana (Moderate Body Compactness), Madhyama Pramana (Moderate anthropometry), Madhyama Koshtha (~Moderate Bowel habits), Madhyama Vyayama Shakti (~moderate physical strength) with Madhyama Satva (~moderate psychological strength). He had Madhyama Abhyavaharan Shakti (moderate power of digestion), Madhyama Jarana Shakti (moderate power of digestion) with Vyamishra Satmya (~Habitual of 2-5 tastes) and habit of drinking alcohol occasionally.

Predominant Dosha in Darunaka is Vata in association with Kapha and Sheetatpitta is Pitta in association with Vatakaphaja. Ayurveda focuses on eradication of Dosha and purification of body by means of Panchakarma. Since Vata and Kapha were vitiated along with Pitta, Classical Shodhana was planned, (Classical Vamana followed by Classical Virechana [Table1,2]) Shamana Chikitsa was followed for one month thereafter to achieve better therapeutic efficacy in this case [Table 3]. The patient was followed up for six months with no medications given in follow up period.

Table I. Method of drug administration for Vamana Karma and Virechana Karma

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Days</th>
<th>Treatment</th>
<th>Drug used Dose</th>
<th>Anupana</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1-3</td>
<td>Dipana- Pachana (digestion and metabolism enhancing)</td>
<td>Triphala Churna- 2gm</td>
<td>Ushnodaka (Lukewarm water)</td>
<td>3 Days</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Vidanga- 1 gm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Shankha Bhasma- 250 mg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>4-8</td>
<td>Vamanarthra Snehapana (Internal oleation for Vamana)</td>
<td>Panchatikta Ghrita Doses are placed at Table 2</td>
<td>Ushnodaka</td>
<td>5 Days</td>
</tr>
</tbody>
</table>

Table II. Details of Snehapana for Vamana Karma and Virechana Karma

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Sarvanga Abhyanga (Therapeutic whole-body massage)</th>
<th>Dashmoola Taila (Oil)</th>
<th>Dashmoola Kwatha (Decoction)</th>
<th>Once a day</th>
<th>1 (Gap day) + 1 (Vamana day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>9</td>
<td>Bashpa Svedana (~Steam sudation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>Vamana karma</td>
<td></td>
<td>Madanphala- 3gm</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vacha-1gm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Saindhava-1gm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yashtimadhu Phanta</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lavanodaka</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>11-17</td>
<td>Samsarjana Krama (post dietic regimen)</td>
<td>Peyadi Krama</td>
<td>7 Days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>18</td>
<td>Normal Diet on 8th day of Vamana Karma</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>19-21</td>
<td>Virechnartha Snehapana (Internal oleation of Virechana)</td>
<td>Panchatikta Ghrita</td>
<td>Doses are placed at Table 2</td>
<td>Ushnodaka 3 days</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>22-24</td>
<td>Sarvanga Abhyanga</td>
<td>Dashmoola Taila</td>
<td></td>
<td></td>
<td>3 (Gap Days) +1 (Virechana Day)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bashpa Svedana</td>
<td>Dashmoola Kwatha</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>25</td>
<td>Virechana Karma</td>
<td>Ichhabhedi Rasa (3 tablets)</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>26-30</td>
<td>Samsarjana Krama (thin gruel of rice etc.)</td>
<td>Peyadi Krama</td>
<td>5 Days</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table II. Details of Snehapana for Vamana Karma and Virechana Karma

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sneha Matra (Dose)</td>
<td>50 ml</td>
<td>75 ml</td>
<td>100 ml</td>
<td>125 ml</td>
<td>150 ml</td>
<td></td>
</tr>
<tr>
<td>Sneha Sevana Kala (Administration time)</td>
<td>6.15 am</td>
<td>6.20 am</td>
<td>6.30 am</td>
<td>6.15 am</td>
<td>6.30 am</td>
<td></td>
</tr>
<tr>
<td>Kshudha Pravrutti Kala (~Time of appetite)</td>
<td>12.15 pm</td>
<td>12.30 pm</td>
<td>2 pm</td>
<td>3.15 pm</td>
<td>3.30 pm</td>
<td></td>
</tr>
<tr>
<td>Mala Pravrutti (~Bowel frequency)</td>
<td>1 time</td>
<td>1 time</td>
<td>2 times</td>
<td>2 times</td>
<td>2 times</td>
<td></td>
</tr>
</tbody>
</table>

Virechnartha Sneha

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sneha Matra</td>
<td>50 ml</td>
<td>75 ml</td>
<td>100 ml</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sneha Sevana Kala</td>
<td>6 am</td>
<td>6.10 am</td>
<td>6.30 am</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kshudha Pravrutti Kala</td>
<td>12.30 pm</td>
<td>2 pm</td>
<td>3.15 pm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mala Pravrutti</td>
<td>1 time</td>
<td>1 time</td>
<td>2 times</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table III. Shamana Aushadha

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Aushadha</th>
<th>Dose</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Avipattikara Choorna 3 gm</td>
<td>3 gm</td>
<td>Twice daily</td>
</tr>
<tr>
<td></td>
<td>Pittantaka Yoga</td>
<td>500 mg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shuddha Gandhaka</td>
<td>250 mg</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Aarogyavardhini Vati</td>
<td>2 Vati</td>
<td>Twice daily</td>
</tr>
<tr>
<td>3</td>
<td>Panchatikta Ghrita Guggulu</td>
<td>2 Guggulu</td>
<td>Twice daily</td>
</tr>
<tr>
<td>4</td>
<td>Manjishthadi Choorna</td>
<td>3 gm</td>
<td>Twice daily</td>
</tr>
<tr>
<td>5</td>
<td>Mahamarichyaadi oil</td>
<td>Daily once for local application</td>
<td></td>
</tr>
</tbody>
</table>

### ASSESSMENT CRITERIA:

The efficacy of the procedures on Darunaka was assessed before treatment and after treatment based on criteria [Table 4].

### Table IV. Gradation scale

<table>
<thead>
<tr>
<th>Symptoms of Darunaka</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Kandu (Itching)</strong></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>0</td>
</tr>
<tr>
<td>Occasionally</td>
<td>1</td>
</tr>
<tr>
<td>Frequently</td>
<td>2</td>
</tr>
<tr>
<td>Constantly</td>
<td>3</td>
</tr>
<tr>
<td><strong>2. Kesha Bhumi Rukshata (Roughness of scalp)</strong></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>0</td>
</tr>
<tr>
<td>Negligible</td>
<td>1</td>
</tr>
<tr>
<td>Without discomfort on scalp</td>
<td>2</td>
</tr>
<tr>
<td>With discomfort on scalp</td>
<td>3</td>
</tr>
<tr>
<td><strong>3. Keshachyuti (Hair fall)</strong></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>0</td>
</tr>
<tr>
<td>Occasionally</td>
<td>1</td>
</tr>
<tr>
<td>Moderate loss</td>
<td>2</td>
</tr>
<tr>
<td>Maximum loss</td>
<td>3</td>
</tr>
<tr>
<td><strong>4. Twak Sphutana (Scaling of the scalp skin)</strong></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>0</td>
</tr>
<tr>
<td>Visible inside the hair</td>
<td>1</td>
</tr>
<tr>
<td>Visible over the hair</td>
<td>2</td>
</tr>
<tr>
<td>Spreaded over the shoulder</td>
<td>3</td>
</tr>
</tbody>
</table>

### Symptoms of Sheetpitta

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Grade 0</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varati Dansh Sansthana Shotha (Swelling as if bitten by the wasp)</td>
<td>Absent</td>
<td>In specific area</td>
<td>Present on some parts of body</td>
<td>Present all over body</td>
</tr>
</tbody>
</table>
Kumawat AR, Mangal G, An ayurvedic approach to the management of darunaka with sheetapitta: a case study, JOA XIV-3, 2020; 37 - 43

<table>
<thead>
<tr>
<th>Kandu (Itching)</th>
<th>Absent</th>
<th>Occasionally</th>
<th>Disturbing the sleep</th>
<th>Disturbing the sleep and normal activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toda (Pricking sensation)</td>
<td>Absent</td>
<td>Occasionally</td>
<td>Disturbing the sleep</td>
<td>Disturbing the sleep and normal activity</td>
</tr>
<tr>
<td>Vidaha ( Burning sensation)</td>
<td>Absent</td>
<td>Occasionally</td>
<td>Disturbing the sleep</td>
<td>Disturbing the sleep and normal activity</td>
</tr>
<tr>
<td>Duration of wheals</td>
<td>Absent</td>
<td>&lt;1 Hour</td>
<td>1-12 Hours</td>
<td>&gt;12 Hours</td>
</tr>
<tr>
<td>Frequency of appearance</td>
<td>Absent</td>
<td>Once a week</td>
<td>2-3 times a week</td>
<td>Daily</td>
</tr>
<tr>
<td>Frequency of use of antihistamines</td>
<td>Absent</td>
<td>Once a week</td>
<td>2-3 times a week</td>
<td>Daily</td>
</tr>
</tbody>
</table>

**OBSERVATION AND RESULTS**

Vega (Urges) during Vamana were 8, and during Virechana were 20. After complete Shodhana, variations in results were found on each symptom associated with Darunaka and Sheetapitta. Patient got relief in sign and symptoms with gradual improvement. Effects of treatment on patient of Darunaka and Sheetapitta are presented in Figure1-4. Assessment on each considering symptom of Darunaka and Sheetapitta have been presented in Table 5. These are the observations before and after Shodhana Karma. Patient did not report any incidence of relapse of symptoms in six months of follow up. This was for the first time in last six years that patient could appreciate complete relief from his symptoms.

![Figure 1: Scalp before Shodhana](image1)

![Figure 2: Scalp after Shodhana](image2)

![Figure 3: Trunk before Shodhana](image3)

![Figure 4: Trunk after Shodhana](image4)
Table V. Effects on symptoms

<table>
<thead>
<tr>
<th>Assessment criteria for Darunaka</th>
<th>Score before treatment</th>
<th>Score after treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kandu</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Keshachyuti</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Kesha Bhoomi Rukshata</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Twak Sphutana</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assessment criteria for Sheetapitta</th>
<th>Score before treatment</th>
<th>Score after treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varati Dansh Sansthana Shotha</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Kandu (Itching)</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Toda</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Vidaha</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Duration of wheals</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Frequency of appearance</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Frequency of use of antihistamines</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

**DISCUSSION:**

Owing to the Vata Kaphaja involvement in Darunaka and association of Kapha, Pitta and Vata in Sheetapitta, Vitiation of Tridosha (three regulatory functional factors of the body) can be considered in present case. Vamana is indicated in Kapha disorders as well the conditions where Kapha along with Pitta or Vata is vitiated. Similarly, Virechana is indicated in Pitta vitiation either alone or in association with Kapha. Moreover, Pidika (eruptions), Kotha (wheal like skin eruptions) and Kandu, are mentioned as Bahudosha Avastha (~State of Dosha vitiation in large quantity) in classics. Moreover, Urdhwa (~Upward), Adhah (~Downward) Shodhana has been advised considering the Bala (Physical endurance) of patient and Vyadhi (Disease). Since the disease was chronic (more than 6 years) and patient was of medium age, complete Shodhana was planned. Dandruff may be a consequence of improper nutritional supply to the scalp resulting in cracking of scalp, dryness, and Hair fall. Its treatment should aim at clearing off the obstruction to ensure proper nutritional supply to the scalp. The same can be achieved through Shodhana Karma. Vitiation of Kapha Dosha is responsible for Kandu, and elimination of this vitiated Dosha through Vamana might have relieved the itching over scalp and trunk region. Virechana Karma does elimination of vitiated Pitta and Vatanulomana (proper functioning of Vayu), and thus might have relieved the redness over trunk region, itching, Kesha Bhoomi Rukshata and Twak Sphutana, providing overall relief in sign and symptoms of Darunaka and Sheetapitta. Apart from the Srotoshuddhi, Shodhana does Manahprasada (Mental cheerfulness), and Psychogenic factors, as anxiety, stress are said to play an important role in producing Urticaria. Relieving these factors might also be a contributing factor to the subsidence of symptoms. Raktavaha Srotodushati cannot be denied in cases of Pidika and Raktamandala (Reddish circular patches on skin) as in present case. Though Samshodhana does Dhatu Sthirata i.e. it makes Dhatu capable of proper functioning. But after Shodhana, Shamana drugs, mainly Pitta- Vata Shamaka and Raktashodhaka (~Blood purificatory) were advised for better therapeutic effects and to avoid remissions.

**CONCLUSION:**

The treatment protocol in present case was based on Ayurvedic principles and Classical Samshodhana provided considerable relief in Darunaka and Sheetapitta. Shamana drugs should be administered thereafter for better therapeutic effects. The recovery in present case was promising and worth documenting.
References


**यांशः**

युगावस्था में होने वाले रोगों में दारुणक और शीतलिपि होना साधारण बात है। दारुणक शिर के बालों में दिखाई देने वाला डेंड्रफ़ तथा संवेशराइक अर्न्टेडाइटिस का सबसे हल्का लक्षण है। निरंतर खुजली होना, पुर: पुन: तथा अज्ञात कारणों से उत्पन्न के कारण जीवन की गुणवत्ता पर अत्यधिक प्रभाव पड़ता है। आयुर्विदिक निदानात्मक लक्षणों के आधार पर डेंड्रफ़ को दारुणक माना जाता है। और, शीतलिपि के साथ अर्न्टेडाइटिस का संबंध हो सकता है। अर्न्टेडाइटिस और डेंड्रफ़, दोनों ही अवस्थाओं में आयुर्विदिक चिकित्सा में कोई संतोषजनक इलाज नहीं है। आयुर्वेद, पंचक्रम प्रक्रियाओं, देनिक आहार, एवं योग के माध्यम से इन व्याधियों में अपना योगदान प्रदान कर सकता है। एक 25 वर्षीय रोगी को शिर में कंदः, केशमूर्ति रुकता है, तथा स्पूटन और केश चुच्चू कार्यक प्रदान कर सकता है। कारण ही वह प्रदेरा पर खुजली और चकित हो जाता है। इसमें रोगी को शोधन व शमन चिकित्सा दी गई। चिकित्सा उपचार से पहले और बाद में संकेत और लक्षणों के आधार पर शोधन चिकित्सा द्वारा प्रदान किए गए सुधार का मूल्यांकन किया गया था। यह चिकित्सा दारुणक और शीतलिपि के लक्षण और लक्षणों को नियंत्रित करने में प्रभावी पायी गई।

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CASE STUDY

Ayurvedic Management of Diabetic Foot Ulcer – A Case Report

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ABSTRACT

Diabetic foot ulcer (DFU) is the most typical complication of diabetes mellitus with a poor prognosis due to micro and macrovascular changes as a result of uncontrolled sugar level. Ayurveda has considered such ulcers as Dushta Vrana and many modalities like oral medication, blood-letting, wound debridement etc. have been advocated for their management. Present case report deals with a male patient aged 49 years, having a diabetic ulcer on the dorsal aspect of left 5th toe and adjoining redundant webspace. He already had an amputation of his first four toes three years back. The patient was an estab case of diabetes mellitus type II and hypertension and was on medication for both disease conditions. We gave him adjuvant Ayurvedic medicines to control his blood glucose level and hypertension. The wound also managed on Ayurvedic lines. This treatment resulted in complete wound healing.

Keywords: Diabetic foot ulcer, Amputation, Wound healing, Leech application, Prameha Pidika.

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Introduction:

Madhumeha, a disease condition in Ayurvedic literature, can be correlated with diabetes mellitus and Prameha Pidika with diabetic foot ulcer (DFU). Prameha Pidika comes under the category of Dushta Vrana (Infected & dirty wound) as a Dushchikitsiya (challenging to manage) entity[1]. Madhumeha is the last stage of Prameha which is a yapa (challenging to cure) type of disease[2]. Glucose laden tissue as a result of prolonged hyperglycemia leads into multiple changes at micro-vascular, neurological and dermal level. Vascular changes cause ischemia in lower limbs, particularly at foot level. Complications of lower extremities are challenging to treat in diabetes patient and especially in foot region[3]. People with diabetes have an 11% higher wound infection rate as compared to wound infection in general population[4]. Diabetic ulcer exhibit delay in the formation of healthy granulation...
tissue due to extended inflammatory phase observed in histopathological studies of such ulcers. With time, changes occur in a diabetic patient like alteration in renal function, diabetic neuropathy, increase in the rate of infection, impaired wound healing capacity due to obstruction in the blood supply at macro and microvascular level.

Diabetic foot ulcer (DFU) is a type of non-healing ulcer that requires surgical intervention in the form of debridement till the wound healed. Limb amputation is the last choice to treat the DFU. Many oral Ayurvedic formulations are there to control diabetes mellitus and DFU along with local treatment. These formulations maintain sugar level, eradicate toxins, improve circulation and enhance wound healing.

In the management of Madhumeha, Dushta Vrana, Sushruta has emphasized upon Shodhana and Raktamokshana. Raktamokshna (bloodletting) is advised in painful conditions, swelling and suppuration in Prameha Pidika (DFU). Leech application is the best para surgical modality which can be used in children, females, pregnant patients and elderly.

Case Report

A male patient aged 49 years, came to the hospital with the complaints of swelling, pus discharge, foul smell and non-healing wound over left side foot at 5th toe (dorsal aspect), and redundant web space between 4th and 5th toe since four months. The patient was known case of diabetes mellitus and hypertension for five years and was on medication (Tab. Glimepiride 1mg BD and Tab. Amlodipine 2.5mg BD). History of surgical amputation of 1st to 4th toes at a private hospital about three years back was there. Amputation confirmed by the presence of scar marks on the plantar aspect of the foot. He was admitted for wound management. His laboratory investigations were within normal limit except random blood sugar 195.6 mg/dl, HbA1c- 8 %, Blood Urea-48.5 mg/dl, Serum Creatinine-2.5 mg/dl. Urine examination revealed proteins, sugar, pus and epithelial cells. After two days of admission, he developed a small abscess at upper 1/3rd of the left leg which was drained under local anaesthesia with standard precautions. Expert opinion was taken for renal function and diabetes from the Department of Kayachikitsa (Internal medicine) and managed accordingly.

Local treatment

1. Daily dressings were done with Kasisadi Tailam (an Ayurvedic medicine) along with surgical debridement regularly till the wound became tidy.

2. Leeches applied once a week for one and a half months (6 sittings). In every sitting two leeches on the wound of foot and two leeches on wound on upper 1/3rd part of the left leg were applied.

Systemic treatment

Orally we gave Tab. Triphala Guggulu 2 BD, Tab. Arogayardhini Vati 2 BD, Amalaki Churna 3gm+ Shudha Gandhak 125mg+ Rasa-manikya75mg BD with luke warm water, Madhumehar Churna 5gm BD, Avipatikar Churna 3 gm+ Pushkarmool Churna 2 gm+ Jaharmohra Bhasam 250 mg with luke warm water, Trinpachmool Kashaya 40 ml BD and Trunikusumakar Churna 5 gm at night time.

Discussion

For the management of diabetes mellitus, hypertension and ulcer; Ayurvedic anti-diabetic and anti-hypertensive treatment (as adjuvants to conventional treatment), local application of Kasisadi Tailam and leech application were used. Because the control the glucose level in diabetes mellitus patient is extremely important for the treatment of diabetic foot ulcers for suppression infection and proper healing. The Vrana (ulcer) which is very painful, having a foul smell, discolouration, copious purulent discharge has been termed as Ashuddha Vrana or Dushta Vrana (Infected/unhealthy wound) and requires Shodhana (cleansing) as per Acharya Charaka. Within the time of two weeks, Dushat Vrana (Infected wound) came in the category of Shudha Vrana (clean wound) with the help of anti-diabetic treatment, wound debridement and leech therapy and by local application of Kasisadi Tailam. As the treatment started the foul smell and pus discharge slowly reduced and blood sugar level came under control. The swelling at the foot region also decreased.
Continuation of the treatment wounds became clean, and signs of healing appeared. Gradually the wound size reduced, and wound margins became bluish, showing the stage of Rohita Vrana (healing wound)[13]. The wound healed completely after six weeks of treatment. During the whole course of treatment, not even a single antibiotic was prescribed. Pathya-apathyā (Diet and Lifestyle regimen) were advised to the patient as advocated by Sushruta[14]. Possibly leech application enhances wound healing in two ways; firstly by improving the blood circulation and clearing the microthrombi and secondly by sucking deoxygenated blood which paves the way for fresh blood. This leads to an increase in the perfusion of blood in the wound area and trigger to release venous congestion in the surrounding area. Suction by leeches creates pressure in the wound area to initiate wound contraction and enhance proliferation of new tissue. Other benefits of leech application are pacifying the glucose level at the cellular level, help to control the rate of infection.

**Conclusion**

This case study has highlighted and proved the potentials of Ayurvedic principles of wound management in diabetic foot ulcer. By judicious use of the Ayurvedic principles of wound management and strict blood sugar control can heal the diabetic foot ulcers without the use of antibiotics locally or systematically.

**Ethics declarations**

**Conflict of interest**

All The authors make a declaration that they have no conflict of interest.

**Ethical approval**

As this is a case report hence does not need any ethical clearance.

**Disclosure of Funding**

No funds have been received in support of this work. No benefits in any form have been or will be obtained from a commercial party related to, directly or indirectly, the subject of this article.

**Declaration of patient consent**

Authors certify that they have obtained consent from the patient and his attendants for the clinical history and images to be reported in the journal while maintaining confidentiality.

**Acknowledgement**

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**Sharma S, Upadhyaya A, Singh M, Sharma R, Sharma S, Ayurvedic Management of Diabetic Foot Ulcer – A Case Report**

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<table>
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References


सारांश:
अनियंत्रित शुगर स्तर के परिणामस्वरूप सूक्ष्म और स्थूल रक्त वाहिकाओं के परिवर्तनों के कारण डायाबिटिक फुट अल्सर (DFU) होता है जो की मधुमेह की सबसे सामान्य संपर्कता है। सबसे अच्छा इलाज उपलब्ध होने के साथ में डायाबिटिक फुट अल्सर (DFU) रोग का परिणाम अच्छा नहीं है। आयुर्वेद में इस तरह के रोग को दूषित रूप में माना गया है एवं उनका उपचार विकिरण साधनों दोबारा किया जाता है; जैसे की मुख से दवा खाना, रक्त-मोक्ष, रोग का शोधन करना आदि है। प्रस्तुत प्रकरण एक 49 वर्ष से अधिक आमु के पुरुष रोगी से संबंधित है जिसके बाएं पांव की 5 वीं अंगुली व साथ का वेब स्थान डायाबिटिक फुट अल्सर से ग्रसित था तथा उसके बाएं रांग की पहली चार अंगुलियां पहले से ही अंगुष्ठदन्त द्वारा निकाल दी गई थी। रोग मधुमेह के प्रकार II ओर उच्च रक्तचाप के रूप से व्यक्तित्व था तथा उसके बाएं पांव की कहीं चार अंगुलियां पहले से ही अंगुष्ठदन्त द्वारा निकाल दी गई थी। उसे केएल आयुर्वैदिक दवा ही दी गई थी ताकि ब्लॉड मूड्सकेप और उच्च रक्तचाप पर नियंत्रण किया जा सके। रोग का उपचार आयुर्वैदिक चिकित्सा सूत्रों द्वारा किया गया। इससे रोग का पूरा विरोध हो गया।