COMPARATIVE STUDY ON EFFICACY OF ERANANDA HARITAKI AND ERANDA SHUNTI IN THE MANAGEMENT OF AMAVATA

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ABSTRACT

Amavata, is a disease described in detail by Madhavakara in Madava Nidana. The word Amavata is made up of Ama and Vata. Aam is produced due to derangement of Jatharagni. This Aam then gets accumulated in Kostha, Sandhi and Trika with vitiated Vata and produce Stabdha in body, swelling over joints and severe pain in multiple joints this condition is called Amavata. This clinical feature of Amavata is markedly similar to Rheumatoid Arthritis, which is a chronic autoimmune disease. **Aim:** To compare the efficacy of Erandaharitaki & Erandashunti as Abhyantarpana and Matrabasti in Amavata. **Materials & Methods:** In the present study 80 patients (40 patients in each group) of Amavata having aged between 20 to 65 years, fulfilling the inclusion criteria were selected from the OPD and IPD of Kayachikitsa Department of MGACH & RC, Salod (H), Wardha (Maharashtra). All patients were investigated for ESR and RA titre and were treated in two different groups with administration of Erandaharitaki in Group A and Eranda Sunthi in group B was given for Abhyantar Pana and Matrabasti. **Results:** After the treatment of 30 days, the improvement was observed in the symptoms of both the groups. The result of this treatment showed the improvement was better in Group A Abhyantarpana & Matrabasti with Erandaharitaki tailam in comparison to Group B Abhyantarpana & Matrabasti with Erandashunti tailam. **Conclusion:** The present study revealed the efficacy of Ayurveda therapy including both Abhyantarpana and Matrabasti for duration of 30 days in the management of Amavata.

KEYWORDS: Amavata, Erandaharitaki, Erandashunti, Matra Basti and Rheumatoid Arthritis.

INTRODUCTION

Amavata is a commonest disorder of joint which spreading now a day. Aam is responsible for the formation of this disease which gets accumulated in joints leads to restriction in movement of joint with pain and tenderness. Aam is major factor for production of Amavata. The disease starts with minor symptoms but may develop and extend to all over the body wherever Ama is going to get lodged along with vitiated Vayu. As the disease progresses additional symptoms with complications like Khanj, Pangulya etc. may be seen. This Aamvata is markedly correlated with Rheumatoid arthritis. Rheumatoid arthritis is an autoimmune disorder in which rheumatoid factor is found to be positive. Pain, inflammation or symmetrical swellings, stiffness in multiple joints particularly in morning and the onset may be with fever are major clinical features of Rheumatoid arthritis. This Rheumatoid arthritis involves other organs, including heart and muscles also. As the disease advances contractures are produced leading to deformity of affected joints like Swan neck deformity, Boutonniere deformity in joints of hand, flexion deformity in elbow, Hallux valgus deformity in foot etc. Depending on the involvement of the joint, character of the pain and laboratory investigations, the final diagnosis was done. It is also a troublesome long persisting disorder having articular as well as extra articular signs and symptoms, yielding socio economic problems and unable to have self-care even. As per the data available 5% of the total population of the world is said to be affected with crippling disorder. It is estimated that females are affected three times that of the males usually manifests from 20-50 years of life.

According to Acharya Shodhana (biopurification), Shamana (pacification) and Nidana Parivarjanam are main modalities of treatment for any disease. The prognosis of Amavata is Krucha Sadyha (Difficult to Curable). But, there are some treatment modalities like Langhan (lightening), Swedana (sudation), Tikta (drugs having bitter taste), Katu (drugs having pungent taste), Virechana
(purgatives), Snehapana (intake of Sneha), Basti (Enema), Deepana (Appetisers), Pachana (digestive), Vatashamaka (pacifier of Vata) and Shothhara (anti-inflammatory) which gives relief from the symptoms of Aamvata.[6]

Presently, non-steroidal anti-inflammatory drugs (NSAIDs), DMARDs and steroids are the support of treatment in this condition; however, they have serious adverse effects and have limitations for a long-term therapy. Hence, there is a need for drugs having good efficacy with low toxicity profile in this debilitating disorder. Ayurveda has always given the best solutions for chronic disorders. In Bhavaprakash Samhita castor (Ricinis Communis) seed oil is mentioned as a best drug for Amavata.[7] Taking into above points of properties of drugs, in the present study as described in Chakradatta Castor oil medicated with Haritak[i][[8] which is also one of the Aampachana Yog by Acharya Charak and also acts as an Anulomana taken in one group and in another group Castor oil medicated with Sunthi[9] respectively for Matrabasti and Abhyantarpana was selected to assess their efficacy in the management of Amavata.

Objectives of the study
1. To assess the efficacy of Erandaharitaki as Abhyantarpana and Matrabasti in Aamvata.
2. To assess the efficacy of Erandashunti as Abhyantarpana and Matrabasti in Aamvata.
3. To compare efficacy of Erandaharitaki & Erandashunti in Aamvata.

Materials and methods
Patients suffering from Amavata were selected from OPD and IPD of Kayachikitsa Department of MGACH&RC, Salod (H), Wardha (Maharashtra). The cases were randomly selected irrespective of their age, sex, occupation, socioeconomic status and also, the one who was following the criteria of the diagnosis of Rheumatoid Arthritis according to the modern medical parameter and the clinical features of Amavata described in Madhava Nidana. These patients were randomly divided into two groups. Group I was treated with Erandaharitaki as Abhyantarpana and Matrabasti and group II was treated with Erandashunti as Abhyantarpana and Matrabasti.

Statistical Analysis of Data
The parameters of signs, symptoms were scored on the basis of standard method and was analysed statistically with ‘t’ test.

Inclusion criteria
• Age of patients between the age group of 20 to 65 years in either sex, age, occupation, socioeconomic status presenting with clinical features of Aamvata such as –
  • Pain
  • Swelling at multiple joints
  • Lack of appetite and also clinical features of Aam.
  • The patients who fulfilled the criteria given by the American Rheumatism Association

Exclusion criteria
• Patients below 20 and above 65 years of the age
• Patients with complications like deformity, severe pain & loss of functions.
• Any other systemic and infectious disorders

Diagnostic criteria
American Rheumatism Association 1987 for the Diagnosis of the Disease was also followed for the confirmation of Rheumatoid arthritis, which is as follows: [10]
1. Morning stiffness lasting for more than one hour
2. Swelling of 3 or more specified joints
3. Swelling of joints in hand and wrist
4. Symmetrical swellings
5. Presence of Rheumatoid nodules
6. Rheumatoid factor positive
7. Radiological changes such as particular osteoporosis, loss of articular cartilage or erosion.
Criteria 2, 3, and 4 must be present for the duration of six weeks or more.
Diagnosis of Rheumatoid arthritis is made with four or more criteria.

Method of collection of data
A special proforma were prepared with all points of General vital information about chief complaints, history of present and past illness, family history, personal history to get information about diet, appetite, bladder habits, bowel habits, allergies, addictions if any, along with treatment history was noted. Examinations like anthropometry, general physical examinations, systemic examinations and lab investigations are carried out as mentioned in Allied sciences. Accordingly, patients are selected and subjected to detailed clinical history and complete examinations. Selected patients are randomly placed under 2 groups as show in Table no.1 so in each group minimum 40 patients are included.

Table 1: Methodology of interventions in both groups

<table>
<thead>
<tr>
<th>Trial Drug For Group A</th>
<th>Trial Drug For Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 patients were treated with Erandaharitaki taila as Abhyantarpana – 15ml and Matrabasti-60ml for 30 consecutive days</td>
<td>40 patients were treated with Erandashunti taila as Abhyantarpana-15ml and Matrabasti – 60ml for 30 consecutive days.</td>
</tr>
</tbody>
</table>
Selection of Drug

Erandataila is a well-known approved medicine for Amavata by Bhaishajyaratnavali[11].

Drugs given in Table no. 2

<table>
<thead>
<tr>
<th>S.no.</th>
<th>Sanskrit name</th>
<th>Botanical name</th>
<th>Part used</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Erandataila</td>
<td>Riccinus communis Linn.</td>
<td>Seed oil</td>
<td>4 parts</td>
</tr>
<tr>
<td>2</td>
<td>Haritaki</td>
<td>Terminalia chebula Linn.</td>
<td>Fruit</td>
<td>1 part</td>
</tr>
</tbody>
</table>

Method of Preparation

For Abhyantarpana and Matrabasti of 80 patients, the Taila was prepared in Dattatraya Rasashala of Mahatma Gandhi Ayurved College Hospital and Research Centre, Salod (H), Wardha.

The Taila was prepared as per the Sneha Kalpana explained in Bhaisajya Ratnavali. For that 1 part of coarse powder of Shunti was taken and added it in 16 part of water, boiled the mixture until ¼ part is remaining, after preparing of decoction to which 4 part of Eranda Taila and 1 part of Sunthi powder is added. The mixture was heated on low flame until the water gets evaporated. The same procedure was repeated for Erandaharitaki Taila also.

Interventions

Group A

Sample size: 40 patients
Sample type: Amavata
Procedure: Abhyantarpana & Matrabasti with Erandaharitaki tailam
Dose: Abhyantarpana - 15ml
Matrabasti - 60ml
Duration: 30 days

Group B

Sample size: 40 patients
Sample type: Amavata
Procedure: Abhyantarpana & Matrabasti with Erandashunti tailam
Dose: Abhyantarpana - 15ml
Matrabasti - 60ml
Duration: 30 days

Clinical Assessment

Assessment of symptoms were done and recorded on the 15th day and 30th day after starting the treatment. Changes in the signs and symptoms were assessed by adopting suitable scoring method.

Ethical clearance: This study was approved by Institutional Ethical Committee (IEC) of DMIMS vide letter no. DMIMS (DU)/IEC/2013-14/604; dated 05.03.2014, before starting the clinical trial on clinically diagnosed patients of Amavata.

Assessment Criteria

<table>
<thead>
<tr>
<th>Subjective parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shula (Pain)</td>
</tr>
<tr>
<td>Sthamba (Stiffness)</td>
</tr>
<tr>
<td>Graha (Motion of joints)</td>
</tr>
<tr>
<td>Shotha (Swelling)</td>
</tr>
<tr>
<td>Vaivarnata (Discoloration)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objective parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA titre</td>
</tr>
<tr>
<td>ESR</td>
</tr>
</tbody>
</table>

Parameter with gradation

Shula

- No pain : Grade 0
- Mild pain : Grade 1
- Moderate pain : Grade 2
- Severe pain : Grade 3
- Most excruciating pain : Grade 4

Sthamba

- No stiffness or stiffness lasting for 5 minutes : Grade 0
- Stiffness lasting for 6 minutes to 30 minutes : Grade 1
- Stiffness lasting for 35 minutes to 1 hour : Grade 2
- Stiffness lasting for 1 ½ hour to 2 hours : Grade 3
- Stiffness lasting for more than 2 hours : Grade 4

Graha

- Normal joint motion : Grade 0
- About 25-49% loss of motion : Grade 1
- About 50% loss of motion : Grade 2
- About 75% loss of motion : Grade 3
- 100% loss of motion or complete ankyloses of the joint : Grade 4
**Shotha**

No Swelling: Grade 0
Joint swelling which may not be apparent on casual inspection, but difficult to recognize on casual observation: Grade 1
Joint swelling obvious even on casual observation: Grade 2
Markedly abnormal swelling: Grade 3
Joint swelling to a maximally abnormal degree: Grade 4

**Vaivarnata**

Absent: Grade 0
Mild: Grade 1
Moderate: Grade 2
Marked: Grade 3
Severe: Grade 4

Observation

Maximum patients registered in the age group of 41-50 years of age 56.67%. Most of the patients were female 63% as compared to male patients 37%.

Out of 80 patients, 96.67% were Hindus, and 3.33% were Muslims. 93.33% patients were married. 6.67% were unmarried. 6.67% patients were uneducated, remaining 93.33% were distributed in different level like primary 26.67%, secondary 30%, graduate 23.33% and post graduate 13.33%. Majority of the patients 43.33% in this series were belonging to middle economic status, while 23.33% were belonging to upper middle class.

Maximum number of patients 60% were possessing Vata-Kapha Prakruti, 23.33% Vata-Pitta and 16.67% patients were of Pitta-Kapha Prakruti. Out of all the patients, 76.67% were of Manda Agni and 23.33% Visama Agni. Maximum patients 76.67% had Madhyama Kostha, which was followed by Krura Kostha were 13.33% and Mrudu Kostha were 10%.

**Table 4: Statistical analysis on overall Subjective parameters in Group A**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Symptoms</th>
<th>B.T Mean±S.E</th>
<th>Follow up</th>
<th>A.T Mean±S.E</th>
<th>d.f</th>
<th>t.value</th>
<th>Remarks</th>
<th>Efficacy %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shula</td>
<td>2.93±0.15</td>
<td>AT1</td>
<td>1.6±0.19</td>
<td>14</td>
<td>10.58</td>
<td>H.S.</td>
<td>45.45</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AT2</td>
<td>0.67±0.16</td>
<td>14</td>
<td>12.47</td>
<td>H.S.</td>
<td>77.27</td>
</tr>
<tr>
<td>2</td>
<td>Stambha</td>
<td>2.33±0.13</td>
<td>AT1</td>
<td>1.33±0.16</td>
<td>14</td>
<td>10.25</td>
<td>H.S.</td>
<td>42.86</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AT2</td>
<td>0.47±0.13</td>
<td>14</td>
<td>20.55</td>
<td>H.S.</td>
<td>80</td>
</tr>
<tr>
<td>3</td>
<td>Graha</td>
<td>1.6±0.13</td>
<td>AT1</td>
<td>0.87±0.17</td>
<td>14</td>
<td>6.21</td>
<td>H.S.</td>
<td>45.83</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AT2</td>
<td>0.33±0.13</td>
<td>14</td>
<td>10.72</td>
<td>H.S.</td>
<td>79.17</td>
</tr>
<tr>
<td>4</td>
<td>Shotha</td>
<td>2.27±0.15</td>
<td>AT1</td>
<td>1.33±0.13</td>
<td>14</td>
<td>7.90</td>
<td>H.S.</td>
<td>41.18</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AT2</td>
<td>1.07±0.14</td>
<td>14</td>
<td>6.85</td>
<td>H.S.</td>
<td>79.41</td>
</tr>
<tr>
<td>5</td>
<td>Vivarnata</td>
<td>2.07±0.15</td>
<td>AT1</td>
<td>1.47±0.19</td>
<td>14</td>
<td>4.58</td>
<td>H.S.</td>
<td>29.03</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AT2</td>
<td>0.47±0.13</td>
<td>14</td>
<td>9.80</td>
<td>H.S.</td>
<td>77.42</td>
</tr>
</tbody>
</table>

**Table 5: Statistical analysis on overall Subjective parameters in Group B**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Symptoms</th>
<th>B.T Mean±S.E</th>
<th>Follow up</th>
<th>A.T Mean±S.E</th>
<th>d.f</th>
<th>t.value</th>
<th>Remarks</th>
<th>Efficacy %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shula</td>
<td>2.93±0.15</td>
<td>AT1</td>
<td>2.0±0.20</td>
<td>14</td>
<td>7.90</td>
<td>H.S.</td>
<td>31.82</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>AT2</td>
<td>1.33±0.25</td>
<td>14</td>
<td>9.80</td>
<td>H.S.</td>
<td>54.55</td>
</tr>
<tr>
<td>2</td>
<td>Stambha</td>
<td>2.20±0.15</td>
<td>AT1</td>
<td>1.47±0.19</td>
<td>14</td>
<td>6.21</td>
<td>H.S.</td>
<td>33.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AT2</td>
<td>1.07±0.23</td>
<td>14</td>
<td>6.85</td>
<td>H.S.</td>
<td>51.52</td>
</tr>
<tr>
<td>3</td>
<td>Graha</td>
<td>1.6±0.13</td>
<td>AT1</td>
<td>1.23±0.15</td>
<td>14</td>
<td>2.65</td>
<td>S.</td>
<td>29.03</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AT2</td>
<td>0.87±0.19</td>
<td>14</td>
<td>4.78</td>
<td>H.S.</td>
<td>45.83</td>
</tr>
<tr>
<td>4</td>
<td>Shotha</td>
<td>2.47±0.13</td>
<td>AT1</td>
<td>1.67±0.16</td>
<td>14</td>
<td>7.48</td>
<td>H.S.</td>
<td>32.43</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AT2</td>
<td>1.07±0.24</td>
<td>14</td>
<td>8.57</td>
<td>H.S.</td>
<td>56.76</td>
</tr>
<tr>
<td>5</td>
<td>Vivarnata</td>
<td>2.07±0.17</td>
<td>AT1</td>
<td>1.60±0.16</td>
<td>14</td>
<td>3.06</td>
<td>H.S.</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AT2</td>
<td>1.13±0.24</td>
<td>14</td>
<td>5.25</td>
<td>H.S.</td>
<td>43.33</td>
</tr>
</tbody>
</table>
RESULTS

Effect on Sandhishula

Relief in Sandhishula was observed 77.27% among the patients of Group-A while the patients of Group-B showed 54.55% improvement. Both the results were statistically highly significant (P < 0.01).

Effect on Stambha

80% relief was observed in Sandhistambha among the patients of Group-A, while the patients of Group-B showed 51.52% improvement. The relief was statistically highly significant (P<0.01) in both the groups.

Effect on Graha

In both the groups, highly significant results were recorded in Graha of the joints. However, the percentage was found to be higher in Group-A 79.17% compared to Group-B 45.83%. Statistically both were highly significant (P<0.01).

Effect on Sandhishotha

In both the Groups highly significant (P<0.01) improvement was recorded in inflammation. Group-A showed 79.41% relief and Group B showed 56.76% relief.

Effect on Vivarnata

The effect on Vivarnata was observed as 77.42% in group-A patients while it recorded as 43.33% in group-B. The improvement was statistically highly significant (P<0.01).

Effect on ESR

In Group A, change in ESR value was 33.09% while in Group B it was 24.11% in E.S.R. value. The results found in both groups were statistically highly significant (P<0.01).

Effect on RA Titre

In Group A change was 11.86% while in Group B it was 9.22%. The results found in both groups were statistically highly significant (P<0.01).

DISCUSSION

According to Acharya Madhavkara, Aam which is formed due to Consumption of food substance without following rules and regulations of diet described in Astaviddda Ahara Vidhi Visesayatan. This Aam disturbs Agni especially Jatharagni. Due to this the food is not properly digested and form immature Ahar rasa in the Amasaya and this undergoes fermentation and disintegration manifests ‘Ama’. Then it absorbed in the circulation along with aggravated and vitiated Vata, Pitta and Kapha and gets accumulated all over the body specially to the Kaphasthas mainly Amasaya and Sandhi leads to restriction in movement of joint, produces pain, tenderness and swelling in affected site or joint and Stabdhat in body, this condition is called Aamvata which is correlated with Rheumatoid Arthritis.[12]

In the terminologies of Ayurveda Shodhana (bio-purification), Shamana (pacification) and Nidana Parivarjanam are main modalities of treatment for any disease. In Shamana therapy the drug which is having Katu (pungent), Tikta (bitter) Rasa and which acts as a Deepana (appetizer) and Pachana (Digestive) are recommended in Aamvata. This good quality of drug does Amapachana, which helps in relieving Shotha & Shoolo. In Shodhana therapy Acharya Chakradatta recommends Basti Chikitsa and Virechana in Aamvata.[13]
In present study the Erandatailam is used for Basti and oral administration which cause Pachana of Aam present in Antra and Rasa by their Tikta, Katu Anurasa and Ushna Verya. Because of Snigdhda and Ushnaguna, oil pacifies Vyanayu. Hence it is very useful in Amavata.[14] In Group A this Erandataila is given with Haritaki which Kaphaghnna is being Katu, Tikta, Kashaya, Laghu and Rookshka and Vataghnna due to Amla and Madhura rasa and Ushna Veerya. This also acts as a Shootha hara and Shoolahara. Due to its Tikta rasa and Ushnaveerya it is Depana and Pachana, and Anulomana due to its Kashya rasa. It is also use to digest Sama Doshha and expels in the Nirma form. It eliminates the Streorodhna and thus by clearing the passage, carries out nourishment of all Dhatu specially Mansa Dhatu by removing obstruction, refreshes the body and increases the strength and it also stimulate the Dhatvagnini and In Group B Eranda Taila is given with Sunthi which is Kaphaghnna being Katu in Rasa, Laghu and Snigdhda in Guna and Ushna in Veeryas well as Vataghnna and Amapachana.[16] This Eranda and Sunthi together help to pacify the Sandhishotha and Shoola.

Probable mode of action of Matra Basti

Basti has been mentioned by Acharya Charak to be the important therapy to manage Vata Doshha and it is called as Ardh Chikitsa. Basti Karma acts on various systems like GIT, enteric nervous system and autonomic nervous system of body besides exerting local action.[17] Ingredients of Matra Basti are Eranda Taila with Haritaki in group A and Eranda Taila with Sunthi in group B was given. As a whole, the qualities of Matra Basti can be considered as Laghu, Rukshha, Ushna, Snigdha. The drugs which are used have Vata, Kaptha Shamaka and Aampachana action. Owing to these properties treatment with the Basti has provided significant improvement in sign and symptom of disease. The Guna of Basti helps in overcoming the Srotodushti resulting due to Sanga, thus help in breaking down the pathogenesis of disease.

CONCLUSION

The present study shows the efficacy of Ayurveda intervention including both Shodhan and Shamana applied following the treatment strategy as explained in classical text books in a case of Amavata. In nutshell the drugs have helped in eliminates the Aam regulates the direction of activity of Apana Vayu (Anulomana) and providing a strength to muscles of body and joints. Such similar treatment protocol can be followed in the cases of Amavata disease. It is found that Both the Groups show highly significant results but improvement was better in Group A were Abhyantarpana & Matrabasti with Erandaharitaki Tailam in comparison to Group B Abhyantarpana & Matrabasti with Erandashunti Tailam. Matra Basti & Abhyantarpana has provided better relief in most of the Cardinal, General and associated features of the disease at significant level. Comparatively Eranda-haritaki Taila Matra Basti and Abyantrapana were found well tolerable in all age groups with minimum complications.

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