



Research Article

COMPARATIVE STUDY ON EFFICACY OF *ERANDA 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 *Stabdhatu* in body, swelling over joints and severe pain in multiple joints this condition is called *Aamvata*. This clinical feature of *Aamvata* 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 *Aamvata*. **Materials & Methods:** In the present study 80 patients (40 patients in each group) of *Aamvata* 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 *Aamvata*.

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 *Aamvata*^[1]. 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. ^[2]

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.^[3] 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.^[4]

According to Acharya *Shodhana* (bio-purification), *Shamana* (pacification) and *Nidana Parivarjanam* are main modalities of treatment for any disease ^[5]. The prognosis of *Aamvata* is *Krucha Sadhya* (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 *Haritaki*^[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.

Table 1: Methodology of interventions in both groups

Trial Drug For Group A	Trial Drug For Group B
40 patients were treated with <i>Erandaharitaki taila</i> as <i>Abhyantarpana</i> – 15ml and <i>Matrabasti</i> -60ml for 30 consecutive days	40 patients were treated with <i>Erandashunti taila</i> as <i>Abhyantarpana</i> -15ml and <i>Matrabasti</i> – 60ml for 30 consecutive days.

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.

Selection of Drug

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

Drugs given in Table no. 2

Table 2: Showing the contents of – Erandaharitaki taila

S.no.	Sanskrit name	Botanical name	Part used	Quantity
1	<i>Erandataila</i>	<i>Riccinus communis</i> Linn.	Seed oil	4 parts
2	<i>Haritaki</i>	<i>Terminalia chebula</i> Linn	Fruit	1 part

Table 3: Showing the contents of – Erandashuntitaila

S.no.	Sanskrit name	Botanical name	Part used	Quantity
1	<i>Erandataila</i>	<i>Riccinus communis</i> Linn.	Seed oil	4 parts
2	<i>Sunthi</i>	<i>Zingiber officinale</i> Roscoe.	Rhizome	1 part

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 *Bhaishajya Ratnavali*. For that 1part 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**Subjective parameters**

- *Shula* (Pain)
- *Sthambha* (Stiffness)
- *Graha* (Motion of joints)
- *Shotha* (Swelling)
- *Vaivarnata* (Discoloration)

Objective parameters

- RA titre
- ESR

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

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 Koshtha*, which was followed by *Krura Koshtha* were 13.33% and *Mrudu Koshtha* were 10%.

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

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

S.No	Symptoms	B.T Mean±S.E	Follow up	A.T Mean±S.E	d.f	t.value	Remarks	Efficacy %
1	<i>Shula</i>	2.93± 0.15	AT1	1.6±0.19	14	10.58	H.S.	45.45
			AT2	0.67±0.16	14	12.47	H.S.	77.27
2	<i>Stambha</i>	2.33±0.13	AT1	1.33±0.16	14	10.25	H.S.	42.86
			AT2	0.47±0.13	14	20.55	H.S.	80
3	<i>Graha</i>	1.6±0.13	AT1	0.87±0.17	14	6.21	H.S.	45.83
			AT2	0.33±0.13	14	10.72	H.S.	79.17
4	<i>Shotha</i>	2.27±0.15	AT1	1.33±0.13	14	7.90	H.S.	41.18
			AT2	0.47±0.14	14	12.44	H.S.	79.41
5	<i>Vivarnata</i>	2.07±0.15	AT1	1.47±0.19	14	4.58	H.S.	29.03
			AT2	0.47±0.13	14	9.80	H.S.	77.42

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

S. No	Symptoms	B.T Mean±S.E	Follow up	A.T Mean±S.E	d.f	t.value	Remarks	Efficacy %
1	<i>Shula</i>	2.93± 0.15	AT1	2.0±0.20	14	7.90	H.S.	31.82
			AT2	1.33±0.25	14	9.80	H.S.	54.55
2	<i>Stambha</i>	2.20±0.15	AT1	1.47±0.19	14	6.21	H.S.	33.33
			AT2	1.07±0.23	14	6.85	H.S.	51.52
3	<i>Graha</i>	1.6±0.13	AT1	1.23±0.15	14	2.65	S.	20.83
			AT2	0.87±0.19	14	4.78	H.S.	45.83
4	<i>Shotha</i>	2.47±0.13	AT1	1.67±0.16	14	7.48	H.S.	32.43
			AT2	1.07±0.24	14	8.57	H.S.	56.76
5	<i>Vivarnata</i>	2.07±0.17	AT1	1.60±0.16	14	3.06	H.S.	20
			AT2	1.13±0.24	14	5.25	H.S.	43.33

Table 6: Statistical analysis on overall Objective parameters in Group A

S.No.	Parameters	B.T Mean±S.E	Follow up	A.T Mean±S.E	d.f	t.value	Remarks	Efficacy%
1	ESR	52.53±4.39	AT1	45.87±4.38	14	6.52	H.S	12.69
			AT2	39.87±3.62	14	6.59	H.S	24.11
2	RA Titre	298.67±14.14	AT1	284.53±14.01	14	10.48	H.S	4.73
			AT2	271.13±13.85	14	10.79	H.S	9.22

Table 7: Statistical analysis on overall Objective parameters in Group B

S.No.	Parameters	B.T Mean±S.E	Follow up	A.T Mean±S.E	d.f	t.value	Remarks	Efficacy%
1	ESR	53.80±4.86	AT1	45.33±4.69	14	6.52	H.S	15.74
			AT2	36.00±3.56	14	6.59	H.S	33.09
2	RA Titre	305.13±16.89	AT1	289.53±15.94	14	10.48	H.S	5.11
			AT2	268.93±15.85	14	11.29	H.S	11.86

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 *Astavidha Ahara Vidhi Visesayatana*. 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 *Kaphasthanas* mainly *Amasaya* and *Sandhi* leads to restriction in movement of joint, produces pain, tenderness and swelling in affected site or joint and *Stabdhatata* 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* & *Shoola*. In *Shodhana* therapy Acharya *Chakradatta* recommends *Basti Chikitsa* and *Virechana* in *Aamvata*.^[13]

In present study the *Erandataila* 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 *Snigdha* and *Ushnaguna*, oil pacifies *Vyanvayu*. Hence it is very useful in *Amavata*.^[14] In Group A this *Erandataila* is given with *Haritaki* which *Kaphaghna* is being *Katu*, *Tikta*, *Kashaya*, *Laghu* and *Rooksha* and *Vataghna* 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 Dosha* and expels in the *Nirama* form. It eliminates the *Strotorodha* 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 *Dhatvagni*^[15] and In Group B *Eranda Taila* is given with *Sunthi* which is *Kaphaghna* being *Katu* in *Rasa*, *Laghu* and *Snigdha* in *Guna* and *Ushna* in *Veerya* as well as *Vataghna* 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 Dosha* and it is called as *Ardha 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*, *Ruksha*, *Ushna*, *Snigdha*. The drugs which are used have *Vata*, *Kapha 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 *Aamvata*. In nut shell 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 *Aamvata* 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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