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A Comparative Study on Efficacy of *Erandamooladi Nirooha Yogabasti* and *Ajamodadi Choorna* in the Management of *Amavata*

Dr. Seeta M. Biradar[1], Dr. Amit R. Nampalliwar[2], Dr. Sateesh S. Patil[3], Dr. Shruti Hiremath[4]

[1]M.D. (Ayu), Ph.D. (Scholar), Associate Professor & HOD, Department of Roganidana, BLDEA'S AVS Ayurveda Mahavidyalaya, Vijayapur, Karnataka, India. *drseetabijapur[at]gmail.com*

[2]M.D., Ph.D. (Ayu.), Reader & HOD, Department of Rognidan & Vikriti Vigyan, Government Ayurved College & Hospital, Bilaspur (C.G.), India

[3]Associate Professor, Department of Swasthvrtta

[4]Assistant Professor, Department of Kriyashareer, BLDEA'S AVS Ayurveda Mahavidyalaya Vidyalaya Vijayapur, Karnataka, India

Abstract: ***Ayurveda being the age old science has taken foremost place in the management of Crippling diseases. Out of these Amavata is among them. Whereas Amavata can be compared to Rheumatoid Arthritis in clinical appearance, it is a chronic joint inflammatory disease where in joint becomes swollen, painful & stiff. Drugs like NSAIDS have side effects whereas DMARDS have renal and hepatic suppression. Nidanaparivarjana, Samshodhana and Samshodhana are principes discussed in Ayurveda for the management of all diseases. Keeping in the above view. The present study was undertaken to see the efficacy of Erandamooladi Niroohabasti & Ajamodadi choorna in the management of Amavata. For the study, 30 patients having symptoms of Amavata like joint pain, swelling, stiffness, etc were selected from IPD and OPD of Shri Mallikarjun Swamiji Post Graduate & Research Centre, Vijayapur. Here patients were randomly divided into 2 groups. Group-A, 15 patients were administered with Yoga basti that include Erandamooladi niroohabasti and Brhatsaindhavadi taila as anuvasana basti. In Group-B, 15 patients were administered with Ajamodadi choorna. Whereas RA factor, Heamatological and Routine tests as Hb%, ESR are carried out. For the assessment of results, the clinical parameters were followed. The results obtained were statistically analyzed and the mean percentage, S.D, S.E, and't' value by using the paired't' test were calculated. After the study, it was observed that, Group-A of patients in which Yogabasti was given have significant results compared to the patients of Ajamodadi of Group-B.***

Keywords: Ama, Agni, Amavata, Erandamooladiniroohabasti, Ajamodadichoorna

1. Introduction

Amavata, especially Rheumatoid arthritis is one of the chronic diseases, which has been causing immense suffering to the people throughout the world. In recent past tremendous progress has been made in the understanding of this disease. In spite of all such developments the problem of Amavata, Rheumatoid arthritis in modern parlance remains a big social problem, because of its chronicity & ignorance of its cause due to which no specific treatment could be evolved. There are various potent remedies in modern medicine capable of suppressing the disease activity but none c approach of them gives prominent cure. The most realistic approach today is to discuss the management of this disease in the context of words such as "control" and "relief" rather than the cause.

Ayurveda described aetiological factors with the reference of Agni, unique concept of Ayurvedic science, according to which hypofunctioning of agni is the root cause of disease, which results into the production of Ama. This Ama is stimulated by the aggravated vatadosha getting settled in trikas and his, characterized by pathogenesis immense pain in joints with inflammation; fever and ultimately stiffness of the joints[1]. Causative factors Ama & Vata have equal importance in the pathogenesis of disease. The undigested ahararasa or Ama[2] acts like Visha in the body. In early stages, only the joint involvement can be seen with cardinal features like *angamarda*, *aruchi*, *alasya*, *jwara*, and *angashoonata*[3] etc. but if it is not treated with systemic procedures, then through the *madhyamrogamarga*, it will lead to cardiac damage and further complications like the involvement of gastrointestinal, cardiovascular, nervous, urinary and respiratory system also. In its chronic phase, frequent aggravation of its entities concludes as cripplers for the human being. *Amavata* can be compared to Rheumatoid arthritis is one of the chronic diseases, which has been

Occurrence of RA with respect Female: Male is 3:1.0.8% 0f population are affected. Rate of prevalence increases with age & sex difference diminishes in the older age group. RA is seen throughout the world and affects all races.[5] Here present study was undertaken to evaluate the comparative efficacy of *Erandamooladinirooha*[6] (*Yogabasti*) & *Ajamodadichoorna*[7] in the management of *Amavata*.

30 cases of Amavata were selected for the present study.12 patients were of 20-30yrs, 14 patients were of 40–50yrs, in this study out of 30 cases more (17) females were Housewives, which only reflects the normal occupation of majority of females in this area. Maximum number of patients were of *vatakaphaprakruti*, this *prakruti* play a major role in

causation of disease. In this study it is observed that patients of madhyamsatva are maximum. Agnimandya is the major cause of the disease, here maximum number of patient presented with agnimandya. The effect of treatment was assessed in relation to cardinal signs & symptoms.

2. Aims & Objectives

1) To evaluate the efficacy of Yoga basti and Ajamodadichoorna in the management of Amavata.
2) To highlight the original approach of Ayurveda in understanding aetiopathogenesis of Amavata.
3) To workout the certain clinical & laboratory modern co-relates of this disease like Rheumatoid Arthritis.

3. Materials & Methods

Selection of Patients
Patients were selected randomly irrespective of sex and religion from the O.P.D and I.P.D of *Kayachikitsa* Department of Dr. B. N. M. Rural Ayurvedic Medical College and Hospital, Vijapur. Patients diagnosed as *Amavata* were selected after preliminary examinations.

After screening them as per Ayurvedic and Modern criteria for *Amavata* disease, selection were carried out according to relevant history, signs & symptoms including laboratory investigation and the patients were given written informed consent to participate in the clinical trial selected for clinical study.

Inclusion criteria
1) *Amavata* was diagnosed according to classical and modern signs and symptoms.
2) Diagnosis of RA, guideline issued by American Rheumatism Association 1987
3) Patients of both sex between the age group 20 to 50 years.
4) Pateint is willing for Basti karma.

Exclusion criteria
1) Those who are suffering from a complication of *Amavata*.
2) Patients below 20 years and above 50 years
3) Juvenile RA, septic arthritis, Rheumatic heart disease.
4) RA with the involvement of others.

Subjective Criteria

Diagnostic criteria:
In this study, the guideline laid down by the classical Ayurvedic texts as well as American rheumatism association[9] 1987 in the selection of patients
1) *Sandhi Shula* (Joint pain)
2) *Sandhi Shotha* (Joint swelling)
3) *Sparshasahatwa* (Joint tenderness)
4) *Stabdata (*Joint stiffness)
5) *Angamarda* (Bodyache)
6) *Aruchi* (Anorexia)
7) *Alasya* (Laziness)

B) Objective Criteria:
Following Laboratory investigation were performed before treatment, after treatment and follow up to assess the severity and clinical improvements.

1) Blood – HB %, TLC, DLC, ESR, Rheumatoid Factor (RF)

Method of *Yogabasti* and *Ajamodadichoorna* administration

Group–A: 15patients were administered the *Yoga Basti* in which 3*ErandamooladiqwathaNiroohaBasti* and 5 *Anuvasana Basti* by *Brhatsaindhavaditaila*.

Group-B: 15 patients were administered with *Ajamodadichoorna* 1gm three times a day with *ushnajala* before food for 4 weeks.

Withdrawal from the Study:
1) Discontinuation of treatment during trial.
2) Development of any complication at any point of time when treatment is continuing.

Period of Study – 1 month (4 weeks)

Follow Up - Patients are advised for follow up after 1month.

Clinical assessment was made in two ways:
1) Severity: For the severity of individual signs and symptoms were assessed by adopting a suitable scoring method and overall assessment is given in clinical proforma.
2) Clinical improvement (CI) was graded as following, by assessing individual symptoms and overall performance as following

Gradation of Symptoms:
Following Ayurveda Clinical Symptoms of Amavata were observed with grading of 0 (Absent), 1 (Mild), 2 (Moderate), 3 (Severe) and 4 (Agonizing).

a) *Sandhi Shula* (Joint pain):
0) No pain
1) Mild Pain
2) Moderate pain but no difficulty in moving.
3) Severe pain with slight difficulty in joint movement remain throughout day & requires no
4) medication
5) Agonizing pains with more difficulty in joint movement disturbing sleep & requires strong analgesics.

b) *Sandhi Shotha (*Joint swelling)
0) No swelling
1) Slight swelling
2) Moderate swelling
3) Severe swelling with diurnal variation
4) Severe swelling without diurnal variation

c) *Sparshasahatwa* (Joint tenderness)
0) No tenderness
1) Subjective experience of tenderness
2) Wincing of face on pressure
3) Wincing of face &withdrawal of affected part
4) Resists touch

d) *Stabdata* (Joint stiffness):
0) No stiffness
1) Stiffness lasting for 1/2hr (30min)
2) Stiffness lasting for 30min-1hr
3) Stiffness lasting for 1-4hr
4) Stiffness lasting more than 4hrs

e) *Angamarda* (Bodyache):
0) no musculoskeletal pain
1) Occasionl musculoskeletal
2) Continous musculoskeletal pain but patient is able to do work
3) continuous diffuse musculosekeletal pain which hampers routine work
4) Due to continuous diffuse musculosekeletal pain patient unable to do any work.

f) *Aruchi* (Anorexia):
0) Normal desire for food
1) Eating timely without much desire
2) Desire for food little late then normal time
3) Desire for food only after long intervals
4) No desire at all

g) *Alasya* (Laziness)
0) No alasya
1) Starts work in time with effects
2) Unable to start work in time but completes the work
3) Delay in start of work & unable to complete
4) Never able to start the work & always likes rest

4. Observations and Results

Total 30 patients were taken for the clinical study & were randomly allocated to Group-A and Group-B.

The observations for the present study were done in 3 stages.
1) General observations for overall patients.
2) Observations for individual groups.
3) Results related observations for individual groups.

4.1 Results after Treatment

Table 1: Showing statistical presentation of all morbidity feature in Group- A

Symptoms		Mean	Sample Size	S.D	S.E	T	P	Significance
Sandhi Shula (Joint pain)	BT	2.87	15	9.15	2.36	-	-	-
	AT	1.53	15	6.39	1.65	4.62	0.001	S
Sandhi Shotha (Joint swelling)	BT	2.60	15	0.98	2.54	--	-	-
	AT	1.46	15	8.33	2.15	3.40	0.0021	S
Sparshasahatwa (Joint tenderness)	BT	2.60	15	9.103	2.35	-	-	-
	AT	1.06	15	4.577	1.18	5.83	0.000	HS
Stabdata (Joint stiffness)	BT	2.86	15	7.43	1.919	-	-	-
	AT	1.40	15	5.07	1.309	6.31	0.000	HS
Angamarda (Bodyache)	BT	2.86	15	9.15	2.36	-	-	-
	AT	1.06	15	5.93	1.53	6.39	0.000	HS
Aruchi (Anorexia)	BT	2.40	15	1.056	2.726	-	-	-
	AT	0.80	15	4.14	1.069	5.47	0.000	HS
Alasya (Laziness)	BT	2.46	15	1.06	2.73	-	-	-
	AT	0.80	15	4.14	1.069	5.67	0.000	HS

Table 2: Showing statistical presentation of all morbidity feature in Group-B:

Symptoms		Mean	Sample Size	S.D	S.E	T	P	Significance
Sandhi Shula (Joint pain)	BT	2.06	15	7.037	1.817	-	-	-
	AT	1.33	15	4.880	1.260	3.32	0.0028	S
Sandhi Shotha (Joint swelling)	BT	2.06	15	7.98	2.063	--	-	-
	AT	1.33	15	7.23	1.869	2.63	0.0136	NS
Sparshasahatwa (Joint tenderness)	BT	1.86	15	7.43	1.91	-	-	-
	AT	1.13	15	5.16	1.33	3.14	0.0043	S
Stabdata (Joint stiffness)	BT	2.13	15	7.43	1.91	-	-	-
	AT	1.33	15	6.17	1.59	3.21	0.0034	S
Angamarda (Bodyache)	BT	1.80	15	9.41	2.43	-	-	-
	AT	1.13	15	0.99	2.55	1.89	0.0692	NS
Aruchi (Anorexia)	BT	1.53	15	9.15	2.36	-	-	-
	AT	0.66	15	6.39	1.65	3.70	0.011	S
Alasya (Laziness)	BT	1.73	15	8.83	2.28	-	-	-
	AT	1.13	15	9.15	2.36	1.83	0.078	NS

Result: The two-tailed P value is < 0.001, for many symptoms, in the group-A. This concludes that difference between values Before & After treatment is considered to be Highly significant (HS). But in some symptoms like *Sandhi Shula* (Joint pain) and *Sandhi Shotha (*Joint swelling) of Group- A it is significant (S), whereas in symptoms *Sandhi Shotha (*Joint swelling), *Angamarda* (Bodyache) and *Alasya* (Laziness) of Group-B it is not significant (NS).

Table 3: Showing difference between total score of two groups symptomatically

(N=15)	Group-A	Group-B
Mean	11.262	8.313
SD	6.48	5.35
SE	1.673	1.381
N	15	15
Passed normality	Yes	Yes
Test applied unpaired 't'test, Two tailed 'p'value =0.1849, considered not statistically significant.		

Result: The results were obtained by considering the difference in symptoms for total score of the two group; the 'p' value is 0.1849 which indicates not significant difference between two groups.

5. Discussion

In present clinical study of 30 cases of *Amavata* were selected, while seeing Age factor, 12 patients were of 20 -30yrs, 14 patients were of 40–50yrs. True to the basic factor of disease, that is predominance in females, in this study out of 30 cases more (17) females were Housewives, which only reflects the normal occupation of majority females in this area. Maximum number of patients were of *vatakaphaprakruti*, this *prakruti* play a major role in causation of disease.

In clinical study it is observed that maximum number of patients were of *Madhyam Satva* suggesting as in any other disease greater susceptibility among those who are not in the peak of their health. Maximum number of patients noted *Agnimandya* symptoms suggesting that the *mandagni* is the major pact in the causation of disease. The effect of treatment was assessed in relation to cardinal signs & symptoms.

***Sandhi Shula* (Joint pain) variables:**
The mean initial symptom score in pain was 2.87, which is reduced to 1.53 after the treatment in *Basti* group. By statically analysis this improvement proved to be highly significant. *Ajamodadi* group it give the significant results.

***Sandhi Shotha* (Joint swelling) variables:**
In swelling 2.6 was the mean score before treatment which later reduced to 1.4 after the treatment. This is statistically significant in *Basti* group. Whereas non-significant in *Ajamodadi* group

***Sparshasahatwa* (Joint tenderness) variables:**
In tenderness 2.6 was the mean score before treatment which later reduced to 1.06 after treatment in *Basti* group & statistically showed highly significant where in *Ajamaodadi* group showed non significant. In the follow up, *Basti* group showed highly significant & *Ajamodadi* group showed significant results.

***Stabdata* (Joint stiffness) variables:**
In stiffness 2.8 was the mean score before treatment which later reduced to 1.4 after treatment in *Basti* group where as in *Ajamodadi* group it is 1.3. in*basti* group statistically showed highly significant where it showed significant in *Ajamodadi* group. In follow up statistically highly significant in *Basti* group & significant in *Ajamodadi* group.

***Angamarda* (Bodyache):**
In *Angamarda* mean score was 2.8 before treatment which later reduced to 1.06 statistically showed highly signiofícant in *Basti* group. Where as in *Ajamodadi* group showed non-significant results. In follow up, statistically showed highly significant results in *Basti* group. Where as in *Ajamodadi* group showed statistically non-significant results.

***Aruchi (*Anorexia):**
In *Aruchi* mean score was 2.4 before treatment which later increased to 0.80 statistically significant in *Basti* group & significant in *Ajamodadi* group. In follow up, statistically highly significant in *Basti* group & highly significant in *Ajamodadi* group.

***Alasya (*Laziness):**
In *Alasya*, mean score was 2.46 before treatment which later increased to 0.80 statistically higher significantly after treatment in *Basti* group. Where as in *Ajamodadi* group showed non-significant. In follow up statistically showed highly significant in *Basti group* & significant in *Ajamodadi* group.

The difference between both groups makes it clear that the clinical efficacy of Group A (*Yogabasti*) with *Erandamooladi nirooha basti* was better than that of Group B (*Ajamodadichoorna*).

Probable mode of action of Erandamooladiniroohabasti;
Erandamooladiniroohabasti is highly effective in normalizing Apanavata dysfunctions & cures disease. It helps in enhancing the appetite & improves digestion. It is good for obese persons which helps or scraping of excessive fat in the body. This basti acts as Lekhaneeya basti and removes the blockage of faeces, urine & hence relieves pain.

Brhatsaindhavadi taila is selected for *Anuvasanbasti*, in this main ingredient is *Erandataila*, so the probable mode of action of *Erandataila* is *kaphavatashamaka* and *ushnaveerya*. It acts as *deepana*also clears microchannels (srotoshodhana). It is mentioned as the best *vatahara*. So by the virtue of all these property erandataila acts very effectively in the disease *Amavata*. So considering all the above properties of each drug preparations used work very effectively as a whole in disease *Amavata*.

The probable mode of action of *Basti* may be as follows;
Whenever we administer *basti*, it is observed that first it acts as *snehana*, next as *vatashamak*, afterwards increases *bala* of patient later acts on *Rasadhatu*, *Raktha*, *Mamsa*, *Medha* and *Asthi*. *Eranda* is the drug of choice mentioned in *Yogaratnakar*[10] in *Amavatachikitsa*

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Probable mode of action of *Ajamodadichoorna*
Here as *kapha* and *vatadosha* are predominant in *Amavata*. The combination has shown the main action against *kapha-vatadoshas* by virtue of its veerya (81% of drugs have *ushnaveerya*). From the *samprapti* of *Amavata*, it is clear that the main *dushya* involved is rasa. pippalimoola, chitraka etc. show deepana, pachana property which improves the function of *Agni*. The choorna will stop further *ama* production & helps to break the basic pathology. *Ama* means unripe & undigested *annarasa*. It needs proper *paka*. By virtue of *ushnaveerya* (81% of total drugs) & *deepana*, *pachana* property *amapachana* will take place. Drugs like *shunti*, *pippali*, *pippalimoola*, *chitraka* etc. are proved as the best *amapachaka*, so the preparation will act on *Ama*. The combination shows 61% of total drugs have a *katurasa*. *katurasa* improves digestion & made the first *dhatu* in proper form, so the combination will act on *rasadhatu*. In the combination maximum percent of drugs like *shunti*, *pippali*.

6. Conclusion

Amavata is the due to the hypo-functioning of Agni, the tendency towards sedentary lifestyle & faulty dietary habits, leads to vitiation of *Vata* and *Kapha* in turn leading to the production of *Ama*. *Pathyapathya* played very important role in the present study. Maximum patients having *Vata-Kapha* in this study. The formulation used in this study contains drugs having *Katu*, *Tiktarasa*, *Ushnaveerya*, *Katuvipaka*, and having a *Laghu*, *Ruksha* properties. *Yogabasti* which contains *Niroohabasti* by *Erandamooladi qwatha* and *Anuvasana basti* by *Brhatsaindhavadi taila* proved effective in the treatment of *Amavata*. *Ajamodadi choorna* proved effective as *Agnideepana* and *Amapachana*.

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