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Sama Stage Amavata (Rheumatoid Arthritis) Treatment: How Effective Is Erand Sneha (Castor Oil)?

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ABSTRACT

The chronicity, incurability, comorbidities, and morbidity of Amavata (Rheumatoid Arthritis) make it a tough condition to treat for doctors. Eranda Sneha (Castor oil) has the ability to stimulate the digestive fire, clear blockages in the gastrointestinal tract, calm the Vata and Kapha Doshas, and eliminate them via purging. The purpose of this study is to evaluate the effectiveness of castor oil in treating Amavata at the Sama stage (the acute phase). CONTENT & APPROACH: From the outpatient and inpatient clinics of the Roga- Nidana Evam Vikriti Vijnana, department of I.P.G.T. & R.A. at the Gujarat Ayurved University in Jamnagar, 61 patients aged 20 to 60 who met the inclusion criteria and had symptoms of Sama stage were recruited for the research. Patients were split into two groups: those who received Eranda Sneha (Castor oil) alone, and those who received Eranda Sneha plus Shunti (Zingiber officinale) once daily on an empty stomach. The results showed that after 15 days of treatment, both groups had a reduction in their symptoms. Only group A showed moderate improvement on maximal objective and subjective measures, suggesting that this treatment had a modest overall impact.The research suggests that Castor oil, either alone or in combination with Zingiber officinale, is helpful in eradicating the Sama stage of Amavata and relieving associated symptoms.

Keywords: *Zingiber officinale, amavata, castor oil, and rheumatoid arthritis*

Introduction

Frequent indulgence in factors which leads to altered status of digestive fire at all level i.e. intestinal, sub-cellular and cellular leads to develop various kinds of diseases. [1] Ayurveda advocates that the causative factor for all disease is *Mandagni* (diminished digestive fire). [2] In 21st century Rheumatoid arthritis (RA) has been more common and distressing among all joints problem. About 0.8% of world population is affected by RA. Females are three times more affected than male. It is a chronic inflammatory joint disease with multi system involvement. The onset is usually during 4th & 5th decade of life; however people of any age group can be affected in any climate condition. Factor producing RA includes infectious triggers, genetic predisposition & autoimmune response.

The course of the disease include an insidious / acute onset with fatigue, anorexia, weakness and rapid development of polyarthritis accompanied with constitutional symptoms such as fever, lymphadenopathy & splenomegaly. Joint involvement is usually symmetrical. It is characterised by pain, swelling, tenderness & painful limitation of movements. Generalised stiffness may occur but morning stiffness lasting more than one hour is a characteristic feature. The metacarpophalangeal & proximal inter phalangeal joints of the hands, wrists, knees & metatarsophalangeal & proximal inter phalangeal joints of the feet are the most common joints involved. [3]

It is a challenging disease for the physicians and medical field as the uses disease modified anti-rheumatoid drug (DMARD), steroids and non-steroidal anti-inflammatory drug (NSAID) frequently have shown negative impact on immune system and gives only temporary relief. However, till date no satisfactory medical management has been developed for this problem. *Amavata* is the disease of *Madhyama Rogamarga*, bone and joints are the chief site for the manifestation of cardinal symptoms like pain, swelling and stiffness of joints, etc.

All the three *Doshas* (bodily humours) takes part in the pathogenesis of disease but *Ama* and vitiated *Vata* play the dominant role. *Amavata* is made up of two words, *Ama* and *Vata*. *Ama* means incomplete digestion of food which result in incomplete/improper formation of *Annarasa* (chyle), circulate in body & reach to target cell where it produces pathology like heaviness in body, loss of strength, drowsiness, aggravation of *Vata* & improper elimination of waste product. Body ache, undesirous to take food, thirst, fever, incomplete digestion of food, swelling in affected joints are the symptoms of *Amavata*.[4] The disease becomes difficult to cure when it grows in intensity. All symptoms mentioned are characteristic features of *Ama* & without treating *Ama* it is impossible to treat the disease so in this condition drug having *Ushna* (hot), *Tikshna* (strong), *Deepana* (stimulant), *Pachani* (digestive), *Vatashamaka* (pacifier of *Vata*),and *Shothhara* (anti-inflammatory) properties can be used.

In Bhavaprakash Samhita castor (*Ricinis Communis*) seed oil is mentioned as a best drug for *Amavata*. [5] Taking into above points of properties of drugs, Castor oil with *Zingiber officinale* was selected to assess their efficacy in the management of *Amavata* in *Sama* condition.

Ethical Clearance

Study was started after obtaining Ethical Clearance from the Institutional Ethics Committee, IPGT & RA, GAU, Jamnagar.

- **IEC - Ref. PGT/7/-A/Ethics/2015-16/1490 [Dated: 25/08/2015]**

Study was Registered in Clinical Trial Registry of India.

- **CTRI NO. - CTRI/2016/12/007569 [Dated: 14/12/2016]**

Materials & Method

Selection of Patients

- Patients suffering from *Amavata* in *Sama* stage were selected from the OPD and IPD of *Rog- Nidana Evam Vikriti Vijnana,* department, I.P.G.T. & R.A., Jamnagar.
- Before registering the patients informed consent were taken.

Criteria for Diagnosis

Diagnosis was confirmed on the basis of symptoms of *Sama* stage of disease with cardinal symptoms of *Amavata* like pain, swelling, stiffness and tenderness along with symptoms of rheumatoid arthritis (As mentioned according to revised criteria of American association of rheumatology 1987).

Inclusion Criteria

- Patients fulfilling the diagnostic criteria especially having symptoms of *Sama* stage of disease
- Age between 20 to 60 years.

Exclusion Criteria

- Patients having symptoms of rheumatoid arthritis but having absence of *Sama* symptoms
- Patients with complications of RA e.g. Pleuro-Pericardial disease, cardiac disease etc
- Patients with poorly controlled HTN, DM and other systemic diseases
- Patients on prolong medication especially corticosteroids, anticholinergics etc.

Registered patients were examined on the basis of specially prepared proforma containing detail assessment of disease encompassing Ayurveda and modern aspects.

Investigations

All the investigation were carried out before starting and after completion of therapy.

1. **Hematology:** Hb%, TLC, DLC, ESR (wintergreen method)
2. **Bio-Chemistry:** FBS, Blood urea, Sr. Uric acid, Sr. creatinine, LFT, RA f actor (Quantitative), CRP, and ASO quantitative titer.
3. Urine analysis (Routine & Microscopic)
4. ECG (12 leads-if needed)
5. X- Rays of affected Joints.

Posology

Group A: *Eranda Sneha* & Decoction of *Shunti*

Dose: 30 ml (20 ml Decoction of *Shunti* & 10 ml *Eranda Sneha*)

Method of Preparation of decoction: 5 gm of coarse powder of *Shunti is* added with 80 ml of water is boiled until ¼ part (20 ml) is remaining, after preparing decoction, to which 10 ml of castor oil is added.

Group B: *Eranda Sneha*

Dose: 10 ml

Time of administration: In both the group at morning – empty stomach

Mode of administration: Oral

Duration: 15 days

***Anupana*:** Luke warm water

Criteria of Assessment

1) **Subjective:**
   - A. Local symptoms
   - B. Systemic symptoms
2) **Objective:**
   - A. Serological parameters
   - B. Hematological and others biochemical parameters.
   - C. Disability index (the Indian health assessment questionnaire)

Improvement in hand grip, foot pressure and walking time.

Clinical assessment: - Assessment of cardinal and associated symptoms were done and recorded on the zero day (i.e. one day before administering the trial drug), 5th, 10th and 15th day after starting the treatment. Changes in the signs and symptoms were assessed by adopting suitable scoring method.

Functional Assessment

Walking time: patients were advised to move 50 meters and time was recorded.

Hand Grip: To find out the functional capacity of the affected upper limb, Patients were asked to squeeze the inflated cuff of the sphygmomanometer and the grip strength has been recorded in mm of Hg.

Foot pressure: To have an objective view of the functional capacity of the legs, foot pressure was recorded by using a weighing machine.

Following statistical test has been applied in this work- Wilcoxon sign rank test (for comparison of two group in subjective criteria), Unpaired 't' test (for comparison of two group in objective criteria) and Paired't' test (for same group).

Software used: Sigma software was used for all statistical evaluation.

Observations & Results

Total 61 patients were registered, among them 53 completed the treatment and 08 dropped out. In group A, 31 were registered out of which 28 completed and 03 dropped out the course. In group B, 30 patients were registered out of which 25 completed and 05 dropped out.

31.14% of patients belonged to age group of 41-50 yrs. 59.01% were female among which 68.85% were Housewife. 26.22% were uneducated followed by primary education (24.59%). 34.42% belonged to lower middle class. 70.49% belonged to urban area. 78.68% were vegetarian. 57.37% had history of consuming sour diet. 81.96% each were taking oily and heavy diet followed by cold substances (70.49%). 27.86% of patients had disturbed sleep (27.86%) and 85.24% had a habit of day sleep. 50.81% had *Krura Koshtha* (hard and constipated stools). 72.13% had diminished function of digestive fire and Irregular function of digestive fire (11.47%). 68.85% had non satisfactory bowel habit and irregular bowel habit (44.26%). 54.09% had excessive micturition (polyuria). 66.66% of females patients enrolled had obstetric history of delivering baby by normal delivery followed by history of abortion (19.44%), and history of LSCS (13.88%). 63.93% had *Vata-Kaphaja Sharira Prakriti.* 80.32% had *Rajajasa-Tamasika Manasa Prakriti.* 14.75% had *Avara Sara,* 9.83% had *Avara Samahanana* and 57.37% had *Avara Satva.* 31.14% were over-weight and 18.03% were obese. 88.52% had *Madhyama Satmya.* 77.04% had *Avara Ahar Shakti.* 59.01% belonged to *Hani Awastha* (old age) followed by 37.70% of patients in *Sampurnata Avastha* (Adult) and 3.27% of *Yuva Awastha*. The *Dosha Avastha* in the patients are represented in table 1.

Table 1. *Dosha Avastha* in patients enrolled

Dosha	*Vriddhi*	*Kshaya*
Vata	*31.14%*	*4.91%*
Pitta	*22.95%*	*47.54%*
Kapha	*34.42%*	*1.63%*

60.65% had negative family history followed by positive family history in 39.34%. 42.62% had chronicity up to 1-5 yrs. 86.80% had gradual onset. 100% developed pain and stiffness, 95.08% had tenderness and swelling in 88.52%. 83.60% of patients showed laziness followed by 78.68%, 77.04%, 72.13%, 62.29%, 59.01%, 44.26% and 34.42% of patients with features of numbness, heaviness in body, body ache, disturb sleep, gargling sound in abdomen, giddiness and burning sensation respectively. 57.37% of patients showed thirst, polyuria and constipation and 55.73% showed loss of appetite. 98.36% had morning time as an aggravating factors followed by exertion (96.72%), day sleep (81.96%), cold wind and sour taste (90.16%). 95.08% had rest as a relieving factors followed by warm water (91.80%) and warm food (49.18%). 100% showed *Rasavaha Srotodushti lakshana* followed by 93.44%, 70.49%, 42.62%, 40.98%, 16.39% and 4.91% showed *Annavaha, Asthivaha, Purishvaha, Mutravaha, Majjavaha* and *Medavaha Shrotodushti* symptoms respectively. 18.03% developed joints crepitation followed by Boutonniere deformity, ulnar deviation and Swan neck deformity in 4.91%. 72.13% were suffering from diminished digestive fire followed by 62.29% consuming incompatible diet. 75.40% had done exercise after oily diet followed by suppression of natural urges (70.49%) and unwholesome activities (11.47%). 80.32% had stress as etiological factor followed by anger (34.42%), sadness(22.95%) and fear (4.91%).

Comparison of effect of therapy between group A and B

On comparing the effect of therapy on chief complaints with help of Wilcoxon sign ranked test both group showed statistically insignificant result which suggested that there was no major differences of effect of both group. However Group A showed comparatively significant efficacy clinically in *Sandhishotha* and *Sparshasahatva* based on the percentage of relief. Whereas Group B showed significant efficacy upon *Sandhishoola* and *Sandhigraha* (Table 2).

Table 2: Comparison of effect of therapy on chief complaints

Chief complaints	Grup	n	Median	Relief %	Z	W	T+	T-	
Sandhishoola	**Group A**	**27**	1.00	37%	0.382	23	138	-115	0.715 IS
	Group B	**25**	1.00	45.97%					
Sandhishotha	**Group A**	**27**	1.00	50.97%	-0.58	99.50	138	-131.50	0.569 IS
	Group B	**23**	1.00	48.79%					
Sandhigraha	**Group A**	**27**	1.00	60.03%	0.00	0.00	85.50	-85.50	1.000 **IS**
	Group B	**25**	1.00	66.66%					
Sparshasahatva	**Group A**	**27**	1.00	50.87%	-1.429	-48.00	36.0	-84.000	0.188 IS
	Group B	**25**	1.00	50%					

On comparing the efficacy of therapy on associated complaints with help of Wilcoxon sign ranked test both group showed statistically insignificant result which suggested that there was no major differences of effect of both group. However based on the percentage of relief clinically Group A showed better relief in reliving symptoms like *Angamarda, Trishna, Jwara, Apaka, Gaurav, Anga-Shunyata* and Group B upon *Aruchi, Alasya, Bahumutrata* (Table 3).

On comparing the efficacy of therapy on functional parameters with the help of unpaired 't' test all the above functional parameter showed statistically insignificant result which suggested that there was not major differences of effect of both group, except foot pressure which showed significant result, Significant result means there was a measurable and better result in patients of group A than B (Table 4).

Table 3: Comparison of effect of therapy on functional parameters functional parameters

Functional parameters	Group	n	Mean	Relief %	Mean difference	SD ±	SE ±	t	p
Walking time	Group A	28	3.21	7.5%	-0.107	3.244	0.613	-0.094	0.925 **(IS)**
	Group B	25	3.32	9.35%					
Hand grip	Group A	56	-5.433	9.36%	-5.933	82.84	10.69	-0.464	0.643 **IS**
	Group B	50	0.500	10.80%					
Foot pressure	Group A	56	2.242	1.19%	-9.035	28.67	3.702	-2.055	0.042 **S**
	Group B	50	11.277	2.32%					
Disability index	Group A	27	0.607	40.46%	0.127	0.653	0.131	0.689	0.494 **IS**
	Group B	25	0.480	47.26%					

Table 4: Comparison of effect of therapy on serological parameter

Serological parameter	Group	n	Mean	Relief%	Mean difference	SD ±	SE ±	t	p
R.A. factor	Group A	28	10.618	3.70%	-14.566	122.21	24.44	-0.429	0.669 **IS**
	Group B	25	25.184	7.40%					
C.R.P	Group A	28	3.914	43.16%	0.858	19.403	3.881	0.214	0.832 **IS**
	Group B	25	3.056	12.44%					
A.S.O.	Group A	28	-16.218	12.97%	-141.13	213.93	42.78	-2.413	0.019 **S**
	Group B	25	124.920	25.91%					

On comparing the efficacy of therapy on serological parameters with help of unpaired ‘t’ test both group showed statistically insignificant result which suggested that there was no major differences between both group, but ASO titre showed significant result in patients of group B than that in group A.

In the present study, the overall efficacy of both therapies suggested that Group A showed moderate improvement in 35.71% which corresponds to relief ranging between 50-74%, whereas in Group B it was only 20%. Which suggests that Group A was better than Group B in reducing the complaints in patients in a better way (Tale 5).

Discussion

While previous research has shown a greater frequency of RA in females, the current study found that the beginning of disease state in the patients occurred as early as 30–40 years. Most of the affected persons lived in metropolitan areas, and their lack of exercise, sedentary lifestyles, and excessive daytime sleep contributed to their illness. According to the Charaka Samhita, a large percentage of patients had symptoms of impaired appetite and metabolism. Patients had a mean duration of chronicity of over 2 years, and many had a history of using immunosuppressants such DMARDs, steroids, and NSAIDs. Therefore, such patients need prolonged therapy in conjunction with the rigorous observance of Pathyasevana (diet and activity).

No significant differences in improvement were found in the statistical analysis of primary and secondary complaints and symptoms between the two groups of therapy. It was observed during the course of the study that patients were responding better symptomatically where ASO and ESR were increasing while CRP values were significantly reducing, and this was confirmed using the paired 't' test on serological parameters, which showed that ESR and ASO titre were higher in group A. Since such reactions cannot be explained scientifically, further research is required to better comprehend them.

Eranda Sneha's Likely Mode of Action Because of its Sukshma Guma [5], Eranda Sneha is able to enter the microchannels and clear any obstructions that may be present there [6]. Its Katu Rasa and Ushna Virya also increase digestive fire, and its Snigdha Guna makes it an effective Vata Shamaka drug.**[7]**

Probable mode of action of *Shunti*

Shunti serves as both an Ama Pachaka and a Kapha Shamaka medicine because to its Katu Rasa and Ushna Virya qualities. Madhur Vipaka [8] causes it to operate as Vata Shamaka and increase digestive fire. Shunti, with its Vata-Kapha Shamaka [9] characteristics, helps reduce the symptoms of Amavata, particularly during the Sama stage, by inhibiting the development of Ama.

Both groups exhibited little to moderate improvement in almost all of the primary complaints, including pain, edema, stiffness, soreness, and related symptoms including lack of appetite, heaviness in body, sleepiness, polyuria, fever, and excessive thirst, etc. Shunti, which has Amapachaka and Vata-Kapha Shamaka properties that calm Dosha to larger extent and transport them from Shakha to Koshtha, may explain why group A demonstrated more effective outcomes than group B. When taking into account all of the complaints, related symptoms, functional improvement, and serological testing, group A exhibited superior outcome than group B. This suggests that the increased dose of Shunti in group A may be responsible for the positive results.

Conclusion

Even though statistical analysis revealed no significant difference between both the groups of treatment, the clinical efficacy of them cannot be ruled out. Hence the present study concludes that *Eranda Sneha* alone and or with combination with *Shunti* is effective in the *Sama* stage of *Amavata*, but clinically addition of *Shunti* has helped in

improving the overall condition of the patient to a better level.

References

1. Madhavakara, Madhava Nidana, Madhukosh Teeka, Amavata adhyaya, chapter 25, verses 1-4 commented by Vijay Rakshit & Shri Kanthadatta, Vol I. Varanasi; Chaukhamba Sanskrit series ; 2009, p- 508
2. Vagabhata, Astang Hridaya, Vidhyotani hindi Teeka, Nidana Sthana, chapter 12, verses 1,Udar Roga Nidana, edited by Kaviraj Atrideva gupta, Varanasi Chaukhamba Prakashana ; 2009, p- 358
3. Rheumatoid arthritis [Internet]. 2017 [Cited on 25/4/17]. Available from: http//en.wikipedia.org/wiki/Rheumatoid arthritis, dated 20/01/17
4. Ibidem Madhava Nidana [1], Amavata adhyaya, chapter 25, verses 5-8, p 508
5. Bhava Mishra, Bhava Prakash, Vidhyotini commentary, Tailavarg, verses 23-25, Varanasi, Chaukhambha Sanskrit series Varanasi. 2009, p-781
6. Sushruta, Dalhana, Sushruta Samhita, Sutra Sthana, Drava dravya vidhi adhyayaya, chapter 45, verses 114, vol I, edited by Ambikadatta Shastri, Varanasi, Chaukhamba Sanskrit series ; 2009, p- 230
7. Ibidem Sushruta Samhita [6], Drava Dravya Vidhi Adhyayaya, 45/114, p- 231
8. Ibidem Sushruta Samhita [6], Drava Dravya Vidhi Adhyayaya, 45/226, p- 261
9. Agnivesha, Charaka, Charaka Samhita, sutra sthana, vidhyotini Hindi commentary, Annadravyavidhi Adhyayaya, Chapter 27, verses 296, edited by Padmbhushana vaidhya samrata shree Satyanarayana shastri, explained by Kashinath Shastri and Gorakhnath Chaturvedi, Varanasi; Chaukhambha Sanskrit series, 2009 p-560