

A CLINICAL STUDY TO EVALUATE THE EFFICACY OF *SAINDHAVADI TAILA MATRA VASTI* IN THE MANAGEMENT OF *AMAVATA* W.S.R. RHEUMATOID ARTHRITIS

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ABSTRACT

Objective: The objective of the study is to find the efficacy of *Saindhavadi Taila Matra Vasti* in the management of *Amavata* (rheumatoid arthritis [RA]).

Methods: For the present clinical study 15 patients of *Amavata* (RA) were registered from the Outpatient Department, PG Department of Kayachikitsa, Rishikul Campus, Haridwar. *Saindhavadi Taila Matra Vasti* was given 60 ml once daily for 8 days, followed by an interval of 7 days. Again *Vasti* was given once daily for 8 days followed by gap of 7 days. Same cycle was repeated next month. Assessment of the patients was done on the basis of subjective, objective, and functional parameters at the interval of 15 days.

Results: Statistically significant result was found in subjective parameters such as pain intensity, *Sandhishotha*, *Gaurav*, *Apaka* ($p < 0.01$ in each), *Jwara*, *Aruchi*, and *Utsahahani* ($p < 0.05$ in each). Statistically non-significant result was found in all the functional parameters ($p > 0.05$), that is, in grip strength, foot pressure, and goniometry. In biochemical parameters, statistically significant result was found in erythrocyte sedimentation rate only ($p < 0.05$). Although non-significant result was found in other biochemical parameters such as hemoglobin, RA factor, and C-reactive protein (CRP) concentration, the mean scores of RA factor and CRP were reduced from 48.7 IU/ml and 10.4 mg/L before treatment to 25.8 IU/ml, 8.2 mg/L after treatment, respectively.

Conclusion: In the clinical study, patients got symptomatic relief in many of the complaints but no significant result was found in functional parameters and most of the biochemical parameters. Thus, it can be concluded that *Saindhavadi Taila Matra Vasti* alone is effective in mild-to-moderate cases of *Amavata* (RA) and in severe cases it can be used along with oral Ayurvedic formulations for better results.

Keywords: *Amavata*, Rheumatoid arthritis, *Saindhavadi Taila Matra Vasti*.

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INTRODUCTION

Amavata is one of the challenging joint diseases encountered by physicians in day-to-day practice due to its chronicity, progressive nature, complications, and morbidity. The term "*Amavata*" is derived from two words - "*Ama*" and "*Vata*" where the word *Ama* means improper or partially digested matter. When *Ama* and *Vata Dosha* are vitiated simultaneously and enters the *Trika* (pelvic girdle) and *Sandhi* (joints) leading to stiffness (*Stabdhatata*) of the body, the condition is called *Amavata* [1]. *Acharya Madhav* has described causative factors for the disease as *Viruddhahara* (unwholesome diet), *Viruddhachesta* (erroneous habits), *Mandagni*, sedentary lifestyle, and exercising immediately after food [2]. Its symptoms include joint pain like that of scorpion bite, swelling, and stiffness in multiple joints with systemic features (*Sarvadaihika Lakshanas*) of *Ama* like *Angamarda* (myalgia), *Aruchi* (anorexia), *Trishna* (thirst), *Alasya* (laziness), *Gaurav* (heaviness), *Jwara* (pyrexia), *Apaka* (indigestion), and *Anga shunata* (oedema). The clinical presentation of *Amavata* closely mimics with rheumatoid arthritis (RA), in accordance with their similarities in clinical features such as multiple joint pain, swelling, stiffness, fever, general debility. RA affects approximately 0.5-1% of the adult population worldwide [3]. The incidence of RA increases between 25 and 55 years of age, after which it plateaus until the age of 75 and then decreases [4]. Women are affected approximately 3 times more often than men [5].

Despite of various treatment measures available in allopathic system of medicine, the prevalence of the disease is quite high. Thus, it draws a major attention of the research scholars worldwide to work on the various aspects of this disease. The present study is aimed at finding the

efficacy of *Saindhavadi Taila Matra Vasti* in the management of *Amavata* (RA).

Aims and objectives

1. To study the mode of action of *Saindhavadi Taila Matra Vasti*
2. To assess the efficacy of *Saindhavadi Taila Matra Vasti* on *Amavata*

METHODS

The study comprised of 15 patients of *Amavata*. The patients were selected from OPD and IPD of Rishikul campus, Haridwar.

Selection of sample

Randomized sampling

Type of study

Single blind.

Duration of study

60 days.

Drug trial schedule

Saindhavadi Taila Matra Vasti was given 60 ml once daily for 8 days, followed by an interval of 7 days. Again *Vasti* was given once daily for 8 days followed by gap of 7 days. Same cycle was repeated next month.

Assessment and follow-up

The assessment of the patients was done at the interval of 15 days and the follow-up was done 1 month after completion of treatment.

Inclusion criteria

- Patients having classical features of *Amavata*.
- Age group of 18-60 years.
- Patients fulfilling American College of Rheumatology criteria, 1987.
- Both sero-positive and sero-negative cases were included in present study.

Exclusion criteria

- Chronicity for more than 15 years
- Having severe crippling deformity
- Patients with other systemic diseases such as cardiac disease, tuberculosis, diabetes mellitus, hypertension
- Any other serious medically and surgically ill patients.

Criteria for assessment

The assessment of the trial was done on the basis of following parameters:

1. Subjective
2. Objective

Subjective

The subjective assessment was done on the basis of:

Improvement in following signs and symptoms of *Amavata* as described in classics:

1	Sandhishoola (joint pain)
2	Sandhishotha (joint swelling)
3	Gaurav (heaviness in the body)
4	Jwara (fever)
5	Aruchi (loss of appetite)
6	Jaadya (morning stiffness)
7	Sparshasahyata (tenderness)
8	Apaaka (indigestion)
9	Bahumutrata (frequency of micturition)
10	Utsahahani (loss of vigor)

The above symptoms were graded as below:

None - 0

Mild - 1

Moderate - 2

Moderate to severe - 3

Severe - 4

Objective

The objective assessment was done on the basis of changes in relevant laboratory parameters and functional parameters.

Biochemical parameters

Hemoglobin (Hb), total leukocyte count, differential leukocyte count, erythrocyte sedimentation rate (ESR), RA factor, and C-reactive protein (CRP).

Functional assessments

1. Grip strength
2. Foot pressure
3. Goniometry (range of motion)

Statistical analysis

Wilcoxon signed rank test was applied on the subjective and functional parameters. Paired t-test was applied on biochemical parameters. Thus, the obtained results were interpreted as:

$p > 0.05$ - not significant; $p < 0.01$ and < 0.05 - significant; and $p < 0.001$ - highly significant.

RESULTS AND DISCUSSION

While observing subjective and objective assessment it was found that statistically significant results were found in subjective parameters such as pain intensity, *Sandhishotha*, *Gaurav*, *Apaka* ($p < 0.01$ in each), *Jwara*, *Aruchi*, and *Utsahahani* ($p < 0.05$ in each). Statistically non-significant results were found in visual analog pain scale, pain frequency and duration, *Jadya*, *Sparshasahyata*, and *Bahumutrata* as value of ($p > 0.05$) in each. The percentage relief in all the subjective parameters is as follow: Visual analog pain scale - 7.3%, pain intensity - 38.3%, pain frequency - 26.0%, pain duration - 25%, *Sandhishotha* - 47.6%, *Gaurav* - 58.8%, *Jwara* - 83.3%, *Aruchi* - 70.0%, *Jadya* - 39.1%, *Sparshasahyata* - 26.3%, *Apaka* - 64.7%, *Bahumutrata* - 20%, and *Utsahahani* - 27.3% (Table 1).

Statistically non-significant results were found in all the functional parameters ($p > 0.05$) (Table 2).

The percentage relief in functional parameters is as follow: Grip strength (right hand) - 15.4%, grip strength (left hand) - 34.8%, foot pressure (right hand) - 25%, foot pressure (left hand) - 18.2%, and goniometry - 22.3% (Table 2).

In biochemical parameters, statistically significant result was found in ESR only ($p < 0.05$). Mean ESR was reduced from 48.7 mm/h before treatment to 35.7 mm/h after treatment. The mean score of Hb, RA

Table 1: Efficacy study of *Matra Vasti* on subjective parameters

Subjective parameters	Median		Wilcoxon signed rank W	p value	% Effect	Result
	BT	AT				
Visual analog pain scale	3	3	-1.732 ^a	>0.05	7.3	Non-significant
Pain intensity	3	2	-3.080 ^a	<0.01	38.3	Significant
Pain frequency	3	3	-1.732 ^a	>0.05	26.0	Non-significant
Pain duration	3	3	-1.414 ^a	>0.05	25.0	Non-significant
Sandhishotha	1	1	-2.887 ^a	<0.01	47.6	Significant
Gaurav	1	0	-2.887 ^a	<0.01	58.8	Significant
Jwara	0	0	-2.236 ^a	<0.05	83.3	Significant
Aruchi	1	0	-2.121 ^a	<0.05	70.0	Significant
Jadya	2	2	-1.732 ^a	>0.05	39.1	Non-significant
Sparshasahyata	1	1	-1.000 ^a	>0.05	26.3	Non-significant
Apaka	1	0	-2.714 ^a	<0.01	64.7	Significant
Bahumutrata	0	0	-1.414 ^a	>0.05	20.0	Non-significant
Utsahahani	2	1	-2.449 ^a	<0.05	27.3	Significant

Table 2: Efficacy study of *Matra Vasti* on functional parameters

Functional parameters	Mean		Wilcoxon signed rank W	p value	% Effect	Result
	BT	AT				
Grip strength (right hand)	1	1	-1.732 ^a	>0.05	15.4	Non-significant
Grip strength (left hand)	1	1	-1.414 ^a	>0.05	34.8	Non-significant
Foot pressure (right leg)	0	0	-1.000 ^a	>0.05	25.0	Non-significant
Foot pressure (left leg)	0	0	-1.414 ^a	>0.05	18.2	Non-significant
Goniometry	2	2	-2.000 ^a	>0.05	22.3	Non-significant

p>0.05 - not significant; p<0.01 and <0.05 - significant; and p<0.001 - highly significant

Table 3: Efficacy study of *Matra Vasti* on biochemical parameters

Biochemical parameters	Mean	N	SD	SE	t value	p value	Result
Hb							
BT	10.7	12	0.85	0.22	1.625	>0.05	Non-significant
AT	10.4	12	0.74	0.19			
ESR							
BT	48.7	12	17.29	4.46	2.36	<0.05	Significant
AT	35.7	12	16.99	4.39			
RA factor							
BT	33.7	12	38.18	9.86	1.853	>0.05	Non-significant
AT	25.8	12	22.91	5.92			
CRP							
BT	10.4	12	16.45	4.25	1.067	>0.05	Non-significant
AT	8.2	12	10.28	2.65			

ESR: Erythrocyte sedimentation rate, Hb: Hemoglobin, RA: Rheumatoid arthritis, CRP: C-reactive protein, SD: Standard deviation, SE: Standard error

Table 4: Estimation of overall response

Grading	Overall response	
	Number of patients	% Relief
Excellent (>75%)	0	0
Marked improvement (50-74%)	4	33.4
Mild improvement (25-49%)	7	58.3
No improvement (<24%)	1	8.3

factor, and CRP was 10.7 g%, 48.7 IU/ml and 10.4 mg/L, respectively before treatment and after treatment it was reduced to 10.4 g%, 25.8 IU/ml, 8.2 mg/L, respectively.

Probable mode of action of *Saindhavadi Taila Matra Vasti*

"*Saindhavadi Taila*" described in *Bhaishajya Ratnawali* in *Amavata Chikitsa Adhyaya* [6] was used for the purpose of *Matra Vasti*. Before understanding the mode of action of *Saindhavadi Taila Matra Vasti* it is important to know how *Matra Vasti* acts, how the drugs given through *Vasti* are absorbed.

Acharya Sushruta has given the following description about the mode of action of *Vasti*:

"पक्वाशयाद् वस्तविर्यं खैरदेहमनुसर्पति" [7]

वृक्षमूले नषिकितानामपां वीर्यमवि दुग्मम् || (Su. Chi. 35/25)

This means *Vasti* given through rectum reaches the whole body just like water poured at the roots reach all the parts of the tree. Thus, according to *Ayurveda*, the *Veerya* (active principle) of the *Vasti* gets absorbed and then, through the general circulation reaches at the site of the lesion and relieves the disease.

Modern pharmacokinetic studies have also proved that drug administration through the rectum can achieve higher blood levels

of the drug than administration through the oral route due to partial avoidance of hepatic first-pass metabolism (Fig. 1) [8].

Saindhavadi Taila has total 32 contents (Table 5).

Basically, it has *Deepan-Pachan Dravyas* such as *Shunthi, Shatpushpa, Saindhav, Maricha, Ajmoda, Pippali, Pippali Mula*. Thus, it causes *Ama-Pachan*. Most of its contents are *Vata-Kaphahara* such as *Shatpushpa, Medaa, Kataphal, Kachoor, Chavya, Vidanga, Renuka-beeja, Nili Vriksha, Danti, Maricha, Ajmoda, Kushtha, Sarshap and Pippali, Vata and Kapha* are the two main pathological factors in *Amavata* which get subsided by these contents. It also contains *Vednasthapan and Shothahara dravyas* such as *Rasna, Erand Mula, Renuka Beeja, Nili Vriksha and Mulethi. Matra Vasti* is a type of *Sneha Vasti* (Table 3). It causes nourishment and cures diseases caused by aggravated *Vata*. *Acharya Chakradatta* has also mentioned the use of *Saindhavadi Taila Vasti* in *Amavata* while describing its *Chikitsa Sutra*. Thus, it can be said *Saindhavadi Taila Matra Vasti* is effective in *Amavata* due to properties of its contents.

CONCLUSION

Amavata is a *Kapha-Vata Pradhana Tridoshaja Vyadhi* which has clinical features similar to RA. RA is an inflammatory disease of the joints, which is associated with activation and proliferation of immunomediated cells, such as T-cells, macrophages, neutrophils, and plasma cells [10]. *Saindhavadi Taila Matra Vasti* was effective in controlling symptoms such as pain intensity, *Sandhishotha, Gaurav, Apaka, Jwara, Aruchi, and Utsahani*. In biochemical parameters, statistically significant result was found in ESR. Although non-significant result was found in other biochemical parameters such as Hb, RA factor, and CRP concentration but the mean scores of RA Factor and CRP were reduced from 48.7 IU/ml and 10.4 mg/L before treatment to 25.8 IU/ml, 8.2 mg/L after treatment, respectively. Thus, it can be concluded that mild-to-moderate symptomatic relief was found in the patients so, it can be said that *Saindhavadi Taila Matra Vasti* alone is effective in mild-to-moderate cases of *Amavata* (RA) and in severe cases, it can be used along with oral Ayurvedic formulations for better results.

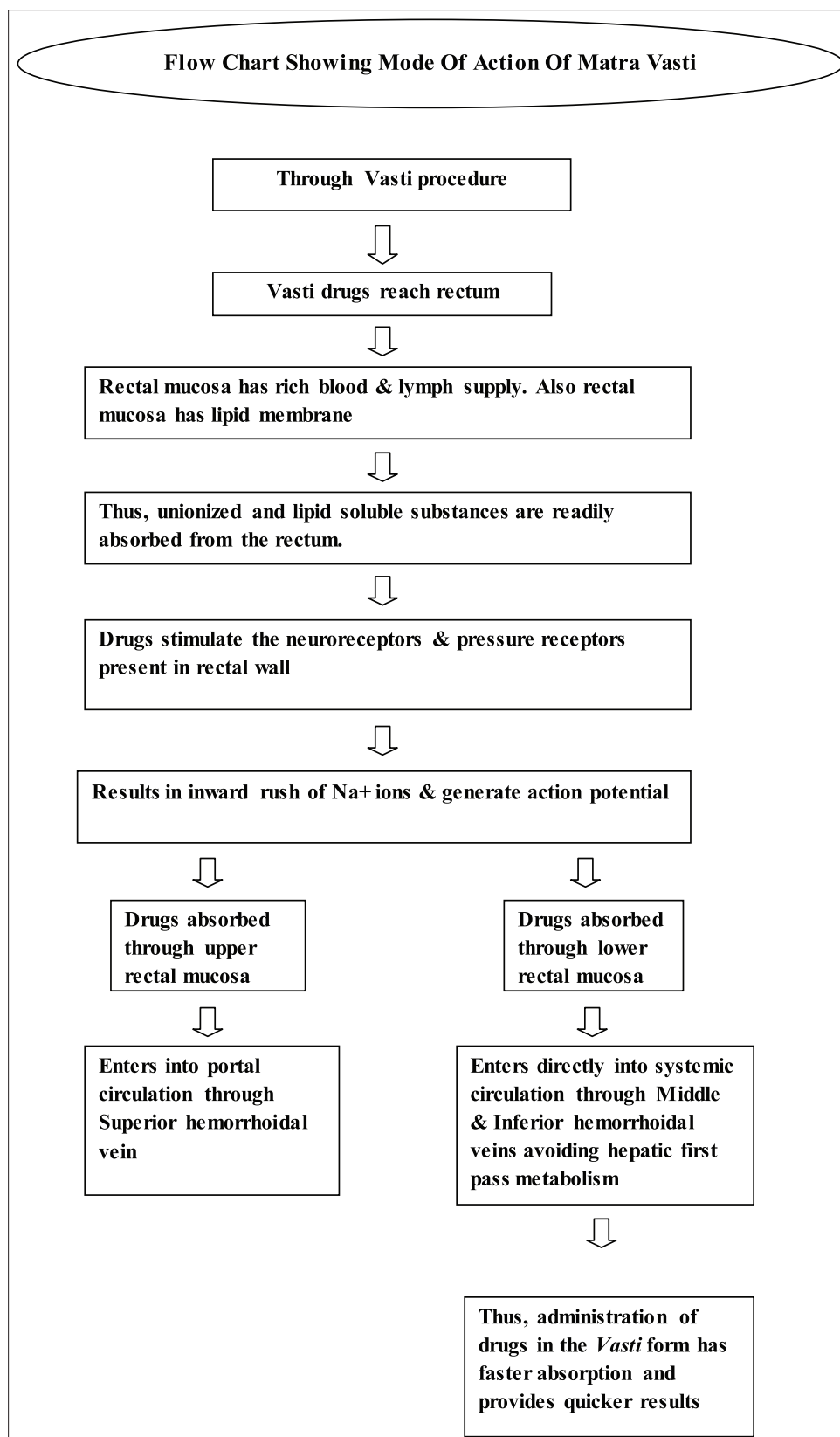


Fig. 1: Mode of action of Matra Vasti

Table 5: Contents of Saindhavadi Taila [9]

S.No.	Content	Latin name	Ratio	S.No.	Contents	Latin name	Ratio
1	Saindhav lavan	Sodium chloride	1 part	17	Kachoorā	Curcuma zedoaria	1 part
2	Devadaru	Cedrus deodara	1 part	18	Vayavidanga	Embelia ribes	1 part
3	Vacha	Acorus calamus	1 part	19	Mulethi	Glycyrrhiza glabra	1 part
4	Shunthi	Zingiber officinale	1 part	20	Renuka beeja	Vitex negundo seeds	1 part
5	Kataphala	Myrica esculenta	1 part	21	Ateesa	Aconitum heterophyllum	1 part
6	Shatpushpa	Anethum sowa	1 part	22	Eradamula	Ricinus communis	1 part
7	Nagarmotha	Cyperus rotundus	1 part	23	Patha	Cissampelos pareira	1 part
8	Chavya	Piper retrofractum	1 part	24	Nilivriksha	Indigofera tinctoria	1 part
9	Medaa	Polygonatum verticillatum	1 part	25	Danti mula	Baliospermum montanum	1 part
10	Mahamedaa	Polygonatum cirrhifolium	1 part	26	Maricha	Piper nigrum	1 part
11	Jayapala-beeja	Croton tinglium	1 part	27	Ajmoda	Trachyspermum ammi	1 part
12	Nishotha	Operculina turpethum	1 part	28	Pippali	Piper longum	1 part
13	Hijjal twaka	Barringtonia acutangula	1 part	29	Kushtha	Saussurea lappa	1 part
14	Sugandhabala	Pavonia odorata	1 part	30	Rasna	Pluchea lanceolata	1 part
15	Chitrakamula	Plumbago zeylanica	1 part	31	Pippali mula	Piper longum	1 part
16	Bharangi	Clerodendrum serratum	1 part	32	Sarshap Taila	Brassica campestris	1 part

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