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## A Clinical Study to Evaluate the Efficacy of *Virechana Karma* with *Trivrutadi Yoga* in *Amavata* w.s.r to Rheumatoid arthritis

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### ABSTRACT

*Amavata* is a disease caused due to the vitiation or aggravation of *Vata* associated with *Ama*, which takes shelter in the *Shleshma Sthana* (*Sandhi, Amashaya*)<sup>1</sup>. The clinical presentation of *Amavata* closely mimics with *Vata* special variety of Rheumatological disorders called Rheumatoid arthritis. Rheumatoid arthritis is widely prevalent throughout the world. The overall worldwide prevalence is 0.8% and steadily increases to 5% in women over the age of 70. Rheumatoid arthritis is 2-3 times more common in women compared to men. In India, the prevalence has been estimated to be 0.7%<sup>2</sup>. *Virechana* is one amongst the *samshodhana* karma mentioned in classics, which removes the morbid *dosha* through *adho marga* of shareera<sup>3</sup>. This is not only beneficial to do the *Pitta nirharana* but also eliminates other morbid doshas. It is the line of treatment of *Amavata*.

### KEYWORDS

*Amavata; Rheumatoid arthritis; Virechana Karma; Trivrutadi yoga*



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## INTRODUCTION

World health Organisation defines health as “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”. *Amavata* is one such disease which may affect all the three i.e. physical, mental and also social well-being of an individual. Pathogenesis of *Amavata* involves *Vata-Kapha pradhana Tridosha* along with the involvement of *Ama*<sup>4</sup>. Here vitiated *Vata* associated with *Ama* moves to various *Kapha sthanas* mainly *Amashaya*, *Sandhi*, *Uras*, *Kanta* etc. and then enters *Dhamani* by circulation with the help of *Vata*. It causes general weakness and heaviness in *Hridaya Pradeshha*. Both *Ama* and *Vata* aggravates simultaneously. It enters *Trika*, *Sandhi* and ultimately leads to *Stabdhatata* in the *Shareera*. Pain is an agonizing symptom experienced by human beings which is many a time inducing distress. *Amavata* is a disease which is characterised by pain, where in *Acharyas* categorized the pain as *Vrischika damshavat vedana*. Owing to the fact that fast spreading, intense pain seen in Scorpion bite a similar kind of agonizing pain would be experienced by patients of *Amavata*.

In modern parlance the disease *Amavata* is identical with Rheumatoid arthritis in its clinical manifestation. Rheumatoid arthritis

is a disorder having grave crippling nature. It is the most common persistent inflammatory arthritis, occurring throughout the world and in all ethnic groups<sup>5</sup>. The prevalence is lowest in black Africans and Chinese, and highest in Pima Indians. In Caucasians, approximately 0.8-1.0% are affected, with a female to male ratio of 3:1. The country wide general prevalence of Rheumatoid arthritis is 0.5% of the population. In the rural parts it is 0.7%. Among the connective tissue disease, Rheumatoid arthritis is by far the commonest. Patients with RA have an increased mortality as compared with age-matched controls, primarily due to an increased risk of Cardiovascular disease. This is more marked in those with severe disease, with a reduction in expected lifespan by 8-15 years. Around 40% of RA patients are registered as disabled within 3 years of onset, and around 80% are moderately to severely disabled within 20 years.

The above said factor force a physician to follow a line of treatment which is potent enough to take care of vitiated *Vata*, *Kapha*, correction of *Ama dosha* and of course the correction of *Agni viz. Pitta*. Hence a multifaceted approach is required in the treatment of *Amavata*. Principles of treatment in *Amavata* are *Deepana*, *Pachana*, *Swedana* and *Shodhana*<sup>6</sup>. By



following only one treatment it is difficult to cure the disease. Full planned course of *Shodhana* procedures such as *Vamana*, *Virechana*, *Basti* along with the use of other external and internal treatment will help over a period of time to tackle the disease<sup>7</sup>. Hence, the study was planned to evaluate the efficacy of *Virechana Karma* with *Trivrutadi Yoga* in *Amavata* w.s.r. to Rheumatoid arthritis.

## MATERIALS AND METHODS

Ethical Committee Approval Number  
SDMCAU/ACA-49/ECH23/17-18

In the present study, the materials and methodology adopted in the clinical study is:

### Source of the data:

#### Drug source

Shunti ghrita was prepared in S.D.M. Ayurveda pharmacy, Udupi.

Dhanyamla was prepared in S.D.M. Ayurveda Hospital, Udupi.

#### Patient source

Minimum of 20 patients diagnosed as *Amavata* fulfilling the study criteria irrespective of sex, religion etc. was taken from IPD/OPD of Sri Dharmasthala Manjunatheshwara Ayurveda Hospital, Udupi.

### Methods of data collection

- **Study Design:** It is an open clinical study with pre-test and post-test design where in minimum of 20 patients diagnosed as *Amavata* of either sex will be selected. All the patients fulfilling the inclusion criteria will be subjected to *Virechana Karma*.

- **Sample Size:** Minimum 20 patients of *Amavata* w.s.r to Rheumatoid arthritis will be selected. A detailed proforma will be prepared considering all the points pertaining to history, signs, symptoms & examinations as mentioned in Ayurvedic classics and allied sciences to confirm the diagnosis.

### Diagnostic Criteria

Based on American College of Rheumatology and European League Against Rheumatism 2010 Criteria.

### CRITERIA SCORE

Joint involvement:

- |  |   |
|--|---|
| <input type="checkbox"/> 1 large joint (shoulder, elbow, hip, knee, ankle)   | 0 |
| <input type="checkbox"/> 2-10 large joints                                   | 1 |
| <input type="checkbox"/> 1-3 small joints (MCP, PIP, thumb, IP, MTP, wrists) | 2 |
| <input type="checkbox"/> 4-10 small joints                                   | 3 |
| <input type="checkbox"/> >10 joints (at least 1 small joint)                 | 5 |

Serology:

- |  |   |
|--|---|
| <input type="checkbox"/> Negative RF and ACPA      | 0 |
| <input type="checkbox"/> Low positive RF and ACPA  | 2 |
| <input type="checkbox"/> High positive RF and ACPA | 3 |



Duration of symptoms:

- |  |   |
|--|---|
| <input type="checkbox"/> <6 weeks            | 0 |
| <input type="checkbox"/> 6 weeks or >6 weeks | 1 |

Acute-phase reactants:

- |   |   |
|---|---|
| <input type="checkbox"/> Normal CRP and ESR           | 0 |
| <input type="checkbox"/> Abnormal CRP or abnormal ESR | 1 |

Patients with a score equal to or more than 6 are considered to have definite Rheumatoid arthritis.

### Inclusion Criteria

- Patients aged between 16 to 60 years.
- Patients who are fulfilling the diagnostic criteria.
- Patients who are fit for *Virechana Karma*.

### Exclusion Criteria

- All connective tissue disorders other than Rheumatoid arthritis.
- Any other systemic disorders like Hypertension, Hypothyroidism etc.

### Duration

- minimum 10 days to maximum of 18 days.

### Investigations

The blood investigations which were carried out- Haemogram, Erythrocyte sedimentation rate, RA factor, C reactive protein, ASLO titer.

### Intervention

#### 1. *Poorvakarma*

##### 1. *Deepana- pachana:*

*Panchakola phanta*<sup>8</sup> was administered in the dose of 30ml three times a day before food. *Phanta* was administered till the occurrence of *niramavasta* and it was performed for minimum of 3 days to maximum of 7 days.

#### 2. *Snehapana:*

The *Snehapana* was done with *Shunti ghrita*<sup>9</sup> for 3 to 7 days. The initial dose was 25ml (*Hrisiyasi matra*) with luke warm water as *Anupana* in the early morning, after the digestion of previous night meal. It was carried out in *arohana krama* as per the *agni* and *koshta* of the patients. Maximum emphasis was given to *Samyak Snigdha lakshana* meanwhile assessment of *sneha jeeryamana* & *sneha jeerna lakshana* were also recorded. Patients were advised to consume little quantity of hot water frequently and to avoid *Ashta mahadoshakara bhavas*. Patient was advised to take the rice gruel when he or she feels hunger in the afternoon and during night hours. *Snehapana* was stopped after attaining *Samyak Snigdha lakshanas*.

#### 3. *Swedana:*

*Dhanyamladhara*<sup>10</sup> was selected for *Swedana* procedure in this study. It was performed on 3 days of *vishrama kala* and on the morning of *Virechana karma*. *Swedana* was assessed based on the *Samyak Swinna lakshanas* such as *sweda pradhurbhava*, *sheeta vyuparama*, *shoola*





*vyuparama, stambha nigraha, gaurava nigraha, mardavata of twacha.*

## 2. **Pradhanakarma**

Depending upon the *Rogi bala* and *Roga bala Trivrutadi Yoga*<sup>11</sup> was administered in the dose of 25 to 30 grams. On the day of *Virechana* patient was advised to be in empty stomach and *Dhanyamladhara* was performed in the morning. At around 9.30 AM (*Shleshma kale gate*) above mentioned *Virechana Aushadha* was given. Before and after *Virechana Karma*, vitals like Blood pressure, Pulse rate, Respiratory rate were recorded and patient was monitored till the completion of procedure. *Shuddhi lakshanas* in terms of *Veigiki, Antiki* and *Laingiki* were assessed.

## 3. **Paschatkarma**

After the completion of the procedure patients were advised to avoid *Ashta mahadoshakara bhavas*. *Samsarjana Krama* was advised for 3, 5 or 7 days depending upon the *Shuddhi lakshanas* obtained.

### **Assessment Criteria**

Each patient was assessed before, after the treatment based on the subjective and

objective parameters. The observations and assessment were recorded in specially prepared case proforma.

### **Subjective Parameters**

- *Samyak Virikta lakshanas- Laingiki* and *Antiki*.

Symptoms of *Amavata* like *Angamarda, Alasya, Gourava, Apaka, Sandhi shoola, Sandhi shotha* etc.

### **Objective Parameters**

- *Samyak Virikta lakshana- Veigiki.*
- Grip test
- Foot pressure test
- Circumference

## **OBSERVATIONS**

In the present study 20 patients of *Amavata* were treated with *Virechana* with *Trivrutadi yoga*.

Total number of patients registered for the study: 20

Number of patients completed the study: 20

Dropouts: Nil

Some of the observations are given as in the table 1 and table 2

**Table 1** Demographic observations

Parameters	Observations in each parameter	Maximum number of patients	Percentage
Age	26-35 Years	5	25.0
	36-45 Years	4	20.0
	46-55 Years	6	30.0
	56-60 Years	5	25.0
Gender	Female	18	90.0
Marital status	Married	17	85.0



**Table 2** Observations related to the procedure

Parameters	Observations in each parameter	Maximum number of patients	Percentage
Duration of <i>Snehapana</i>	3 days	6	30.0
	4 days	13	65.0
	7 days	1	5.0
<i>Antiki shuddhi</i> of <i>Virechana</i>	<i>Kaphanta</i>	15	75.0
	<i>Pittanta</i>	5	25.0
<i>Veigiki shuddhi</i> of <i>Virechana</i>	0-10	1	5.0
	11-20	14	70.0
	21-30	5	25.0

## RESULTS

In this, *Virechana* was performed with *Trivrutadi Yoga* in 20 patients of *Amavata*. The relevant data were collected before the treatment and patient were assessed on first day of treatment (BT) and after the

treatment (AT). The collected data were analyzed using Paired-t test for quantitative data whereas Wilcoxon Signed Rank Test was used for ordinal data i.e. qualitative data.

**Table 3** Effect on cardinal symptoms of *Amavata*

Symptoms	Negative ranks			Positive ranks			Ties	Total	Z value	P value	Interpretation
	N	MR	SR	N	MR	SR					
<i>Angamard a</i>	20	10.50	210.0	0	.00	0.0	0	20	-4.029	.000	HS
<i>Aruchi</i>	19	10.00	190.00	0	.00	.00	1	20	-3.938	.000	HS
<i>Trishna</i>	3	2.0	6.0	0	0	0	17	20	-1.732	.083	NS
<i>Alasya</i>	17	9.0	153.0	0	.0	.0	3	20	-4.025	.000	HS
<i>Gourava</i>	19	10.0	190.0	0	0.0	0.0	1	20	-3.987	.000	HS
<i>Apaka</i>	7	4.0	28.0	0	0.0	0.0	13	20	-2.460	.014	S
<i>Anga shoonata</i>	18	9.5	171	0	0.0	0.0	2	20	-3.906	.000	HS
<i>Sandhi shoola</i>	20	10.5	210.0	0	0.0	0.0	0	20	-4.072	.000	HS
<i>Sandhi shota</i>	19	10.0	190.0	0	0.0	0.0	1	20	-3.923	.000	HS
<i>Agnimand ya</i>	19	10.0	190.0	0	0.0	0.0	1	20	-3.981	.000	HS
<i>Praseka</i>	3	2.0	6.0	0	0.0	0.0	17	20	-1.732	.083	NS
<i>Utsaha hani</i>	17	9.0	153.0	0	0.0	0.0	3	20	-4.025	.000	HS
<i>Vairasya</i>	18	9.50	171.0	0	0.0	0.0	2	20	-3.839	.000	HS
<i>Bahumutr ata</i>	11	6.0	66.0	0	0.0	0.0	9	20	-3.071	.002	S
<i>Kukshi katinata</i>	4	2.56	10.0	0	0.0	0.0	16	20	-1.890	.059	NS
<i>Kukshi shoola</i>	4	2.56	10.0	0	0.0	0.0	16	20	-1.890	.059	NS
<i>Chardi</i>	1	1.0	1.0	0	0.0	0.0	19	20	-1.000	.317	NS
<i>Vit vibaddhat a</i>	8	4.5	36.0	0	0.0	0.0	12	20	-2.714	.007	S
Stiffness	20	10.50	210.0	0	0.0	0.0	0	20	-4.093	.000	HS



Tenderness	20	10.50	210.0	0	0.0	0.0	0	20	-4.179	.000	HS
Warmth	17	9.0	153.0	0	0.0	0.0	3	20	-3.782	.000	HS
Redness	13	7.0	91.0	0	0.0	0.0	7	20	-3.272	.001	HS
Range of movement	15	8.0	120	0	0.0	0.0	5	20	-3.771	.000	HS

**Table 4** Changes in Haematological parameters

Parameter	Mean score	Difference in mean	Paired t test					Interpretation
			% change	SD	SEM	t value	P value	
Haemoglobin	BT 11.47	0.07	0.61	1.26	0.28	-1.40	0.177	NS
	AT 11.54			1.31	0.29			
ESR	BT 55.20	2.80	5.07	29.55	6.60	0.69	0.498	NS
	AT 52.40			26.78	5.98			
RA Factor	BT 87.30	8.26	9.46	22.64	8.00	1.17	0.278	NS
	AT 79.03			37.06	13.10			
CRP	BT 36.28	10.15	27.97	34.75	14.18	0.89	0.414	NS
	AT 26.13			22.50	9.18			
ASLO Titre	BT 755.00	58.00	7.68	643.46	455.00	2.07	0.286	NS
	AT 697.00			683.06	483.00			

Overall effect of the treatment:

From the above observations we can come to a conclusion that *Virechana Karma* is effective in the management of *Amavata*. The patients of *Amavata* who are treated with *Virechana Karma* showed good response to the treatment with regards to cardinal symptoms of *Amavata*, clinical parameters and haematological investigations. The improvement was marked soon after the *Abhyantara Snehapana* and *Swedana*. Satisfactory improvement was seen soon after the *Virechana*.

## DISCUSSION

Locomotion is one of the important needs of the living beings. Man needs movement to fulfill personal needs and for daily

activities. When locomotion is affected it in turn affects the personal, social, economic status of the person. *Amavata* is one such disorder which affects locomotion. It affects the *Sandhi* and *Hridaya marma* which forms the *Madhyama roga marga*. *Mandagni* plays an important role in causation of the disease. *Viruddha ahara sevana*, *viruddha chesta*, *nischalatva* and doing *vyayama* immediately after consuming *snigdha bhojana* are the causative factors for the disease *Amavata*<sup>12</sup>. These *nidanans* leading to the production of *Ama*. *Vata dosha* also gets vitiated. *Ama* along with vitiated *Vata* circulates to different parts of the body and takes shelter in different *Shleshma sthanas*. *Ama* on further vitiation by *Vata* and *Kapha* enters the circulation and later gets associated





with morbid *Pitta*. In modern parlance it mimics the disease Rheumatoid arthritis. *Ama* and *Vata* being contradictory in character, pose difficulty in planning the line of treatment. The antagonistic treatment of *Vata* and *Kapha dosha* should be carried out simultaneously. Involvement of both *Uttana* and *Gambhira dhatu* makes the treatment more a puzzle.

Hence a treatment which alleviates the morbid *Vata*, *Kapha* and *Pitta* is required in *Amavata*. *Virechana* is one such procedure fulfilling the above criteria<sup>13</sup>. *Virechana* is one among *Panchakarma* procedures which is having less complications and stress compare to other procedures. Each and every steps involved in the *Virechana Karma* has its own importance in providing the benefits to the patient in terms of maintaining the health and curing the ill health.

#### **Clinical study:**

A total of 20 patients fulfilling the inclusion criteria were taken for this study. Statistical analysis was done using IBM SPSS version 20.0. The observation, results and statistical analysis are elaborated below.

- Number of individuals registered for the study- 20
- Number of individuals completed the study-20
- Drop outs- 0

#### **Effect of the Procedure:**

Observation during *Deepana-Pachana*: In the present study *Panchakola phanta* was selected for *Deepana-Pachana*. *Ama* is the main factor involved in the production of disease *Amavata*. Since *Panchakola phanta* possess *katu rasa*, *katu vipaka* and *ushna veerya*, it helps in producing *Amapachana* effect in patients suffering from *Amavata*. *Amapachana* is essential before undergoing the process of *Shodhana* and to obtain effective result. With this intention *Panchakola Phanta* was selected.

Observation of *Abhyantara Snehapana*: Here *Shunti ghrta* was selected for *Snehapana*. On the first day 25ml (*hrisiyasi matra*) of *Shunti ghrta* was administered. Based on time taken for the digestion of *sneha* on the first day subsequent dose was selected. *Snehapana* was administered in *Arohana krama* till the appearance of *Samyak Snigdha lakshanas* for minimum of 3 days to maximum 7 days.

Total duration of *Snehapana*: 20 patients of this study achieved *Samyak Snigdha lakshanas* in 3 to 7 days. 65% of patients achieved *Samyak Snigdha lakshanas* in 4 days, 30% of patients in 3 days and 05% took 7 days to attain the *Samyak Snigdha lakshanas*.

Total quantity of *Snehapana*: Total amount of *ghrita* required to achieve *Samyak Snigdha* is depicted here. *Ghrta* required



to achieve *Samyak Snigdha lakshana* in 35% of patients is between 200-300 ml, each 30% of patients attained these *lakshanas* by the administration of 100-200ml and 300-400ml and remaining 05% of patient required 800-900 ml of *ghrita* to achieve *Samyak Snigdha lakshanas*.

*Samyak Snigdha lakshanas* observed on last day of *snehapana*: *Vatanulomana* and *snigdha varchas* was seen in 100% of patients. *Snehodvega* was seen in 95% of the patients. 90% of the patients achieved symptoms like *asamhata varchas* and *gatra mardavata*. 80% of the patients attained *agni deepthi*. 25% of the patients attained *laghuta* in the *shareera*. *Glani* was observed in 15% of the patients and 10% of patients experienced *klama*.

Observation on the 3 days gap period: After stopping *Snehapana*, 3 days gap was given. On this gap period *Dhanyamladhara* was carried out. Patient was advised to take *drava*, *ushna*, *anabhishtyandi*, *na atisnigdha*, *asankara ahara* and advised not to consume *Kapha vardhaka ahara*.

Observation of *Swedana Karma*: *Dhanyamladhara* was the method of *Swedana* used in this study. It is carried out for 4 days i.e. on 3 days gap period and on the morning of *Virechana*.

*Samyak Swinna lakshana*: *Sweda pradhurbhava*, *sheeta vyuparama* and *mardavata of twak* observed in 100% of the

patients. In 95% of patients *Gourava nigraha* and in 90% *stambha nigraha* was achieved. In 85% of the patients *shoola vyuparama* was noted.

Observation of *Virechana karma*: *Virechana* is useful in eliminating the morbid *Pitta dosha* from the body. The properties of *Virechaka dravya* such as *ushna*, *teekshna*, *sukshma*, *vyavayi* and *vikasi* will irritate the mucosa of stomach as well as intestine and also speed of action will be enhanced. Due to the predominance of *Prithvi* and *Ap mahabhoota*, and *Adhobhagahara prabhava* of *Virechaka dravya* morbid *doshas* are eliminated through the *adhobhaga* of *Shareera*<sup>14</sup>.

Latency period: Latency period is considered as the period calculated from the time of administration of *Virechana* medicine to the time of onset of first *vega*. In 55% of patients latency period was between 31-60 minutes, in 20% of the patients between 1-30 minutes and 61-90 minutes each and in remaining 5% of the patients between 91-120 minutes.

Total duration of *Virechana*: Total duration of *Virechana* was calculated from the time onset of first *vega* till the time of last *vega*. In 40% of patient total duration of *Virechana* was between 481-600 minutes, in 20% of patients between 241-360 minutes, in 15% of subjects between 601-720 minutes and more than 720 minutes and



in remaining 10% between 361-480 minutes.

*Anthiki shuddhi*: In 75% of patients *Virechana* was *Kaphanta* and in remaining 25% of patients it was *Pittanta*.

*Veigiki shuddhi*: In 70% of the patients *veigiki shuddhi* was *madhyama* i.e. between 11-20 *vegas*, in 25% of the patients it was *pravara* i.e. between 21-30 *vegas* and in remaining 05% of the patients *veigiki shuddhi* was *avara* i.e. between 1-10 *vegas*.

Observation of *Samyak Virikta lakshana*: Symptoms like *kshudha*, *trishna* was observed in 100% of the patients. *Laghuta* and *vatanulomana* was observed in 95% of the patients. *Srotovishuddhi*, *indriya prasadana*, *agnivruddhi* and *kramat Vit-Pitta-Kapha-Vata nissarana* was observed in 90% of the subjects. *Dourbalya* and *kale vega pravartana* was observed in 75% of the subjects. 05% of patients developed *karshyata*. *Samsarjana Krama*: *Samsarjana karma* was advised based on the *shuddhi lakshanas* and by considering *bala* of the patient. 70% of the patients were advised with 5 days of *samsarjana krama*, 25% of the patients were advised with 7 days of *samsarjana krama* and 05% of patient was advised with 3 days of *samsarjana karma*.

## CONCLUSION

*Amavata* is a disease entity with the

involvement of morbid *Ama* and *Vata-Kapha pradhana Tridosha*. When a person suffering from *mandagni* indulges in the specific etiological factors like *viruddha ahara*, *viruddha chesta* etc. leads to the formation of *Ama* which gets provoked by vitiated *Vata dosha* and is mobilized to different *Kaphasthanas* resulting in the formation of *Amavata*. From the modern stand point, this disease is identical with Rheumatoid Arthritis in clinical manifestations.

If the *Deepana-Pachana* is done properly, then *Snehapana* can be administered successfully in the patients of *Amavata*. No untoward complications were encountered during *Snehapana* in this study. Since *Shunti Ghrita* was used for *Snehapana* in this study it further helped in doing *Amapachana*. *Dhanyamladhara* was chosen for *Swedana Karma* and which helped in relieving symptoms like *Shoola*, *Stambha* etc. to certain extent. The main procedure *Virechana* has provided better relief in most of the signs and symptoms of *Amavata*. Joint swelling was reduced immediately after *Virechana* in many patients.

Hence *Virechana Karma* plays an important role in providing the relief in the signs and symptoms of the *Amavata*.



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