

COMPARATIVE CLINICAL STUDY ON MUSTA, ASWAGANDHA AND PANCAKARMA THERAPY IN AMAVATA (RHEUMATOID ARTHRITIS)

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(Received on 2.6.98)

Amavata (Rheumatoid arthritis) is a chronic multi-system disease which affects mainly the joints. Most patients experiences persistant but fluctuating disease activity accompanied by variable degree of joint deformity. As the course of the disease process has not been clearly known, the successful treatment and prevention are also very difficult. In Amavata, Kapha and Vata are the main vitiated Doses. Ama a product of impaired pacakogni and Rasadhathwagni is carried by Vayu and accumulated at different places of the body mainly in the joints by obstruction of srotases and causes inflammation. A research study was conducted to assess the effect of single drugs and Pancakarma therapy in Amavata. 120 patients were selected for

the study. They were grouped into 3 at random and Musta Curna, Aswagandha Curna and Pancakarma therapy was given in group I, II and III respectively for the period of 90 days. The results were encouraging and statistically highly significant ($P < 0.001$) in all the three groups. The result was better in Pancakarma group in comparison with Musta and Aswagandha groups.

Introduction

The description of *Amavata* (Rheumatoid arthritis) is not specifically mentioned in the ancient Ayurvedic classics. In Caraka Samhita, Susrutha Samhita, etc. *Ama* is considered as a digestive disorder. The condition in which *Ama* is involved is termed as *Sama*. In

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Vacaspthy (1969) *Amavata* is termed as *Amo Apakwa Hetu Vata*. In *Sabda* (Raja Radha Kantha Deva, 1967) the *Nirukti* of *Ama* - A +*Amu+Karmani Dhamu* means *Pakarahita*. *Amavata* means *Amo Apaka Hetvu Vata* (Raja Radha Kanta Deva, 1967).

According to Ayurveda, origin of *Amavata* is from gastrointestinal system. Madhavakara (1985) describes *Amavata* as a separate disease. He gives a clear and appropriate picture of its *Nidana*, *Samprapti* as well as *Lakshanas*. When a person of sedentary life habits with hypofunctioning of digestive mechanism, indulges in incompatible diet, or does exercise after taking fatty food the *Ama* is formed and propelled by *Vayu* and reaches the *Sleshmastana*. The incompletely processed *Amarasa* with the help of vitiated *Vata* is circulated all over the body. It then takes on multi colours become excessively mucoid and accumulated in the small channels. It renders the patient weak in no time and produces a feeling of heaviness in the precordial region. This substance named *Ama* is the cause of so many distressing diseases. Vaghbata also giving same description to *Ama* (*Ushmano Alpabalathvena Rasamamam Pracakshate* (Vaghbata, 1956). When this aggravated *Ama* and *Vata* simultaneously circulates all over the body and get accumulated in the joints by *Srotosanga* and making the body stiff this condition is known as *Amavata*. Body pain, loss of appetite, anorexia, fever, weakness, excessive thirst and heaviness of the body are the general clinical features of *Amavata* (Madhavakara, 1985).

When *Amavata* gets exacerbated it becomes most distressing of all other

Vyadhis. It produces scorpion bite like severe pain and swelling in joints. It gives excessive salivation, colicky pain, vomiting etc. and other complications (Madhavakara, 1985). In *Bhaishajyaratnavali*, Vacaspthy and Cakradata are also described the same signs and symptoms.

The clinical manifestation of the disease discussed in Ayurveda has very much similar to that of rheumatoid arthritis. But in *Nidana* there is no similarity. According to modern medicine rheumatoid arthritis is characteristically a chronic poly arthritis and its exact etiology is unknown (Joseph Lee Hollender, 1966). "Intensive efforts have failed to establish that it is caused by a specific infectious agent, by nutritional excess or deficiency by metabolic aberrations, by faulty or unbalanced endocrine secretions, or by a well defined mechanism involving dysfunction of the autonomic nervous system or the somatic reflection of emotional or personality disorders". Recent work has focused on the possible role of superantigens produced by a number of microorganisms including staphylococci, streptococci and mycoplasma arthritidis. Other etiologic mechanisms in Rheumatoid arthritis include a break down in normal self-tolerance leading to reactivity to self-antigens in the joint, such as type II collagen or loss of immunoregulatory control mechanisms resulting in polyclonal 'T' cell activation.

The prognosis of the disease Madhavakara (1985) describes as three types is, (1) when one *Dosha* is involved

- the disease is *Sandya* i.e. curable, (2) involvement of two *Dosha* - it is said to be *Yapya* i.e. medicine should be taken for a long period and (3) when all the three *Dosas* are involved and there is an inflammation all over the body - then it will be *Kricra Sandya* i.e., difficult to cure. As *Amavata* is caused by *Dosas* - *Vata* and *Kapha*. So the disease itself is *Yapya*, and when it becomes chronic it is more difficult to cure.

Since inception, Indian Institute of *Pancakarma* is concentrating on this disease and three studies have been completed so far. Result of all the three studies were encouraging and statistically significant. The present trial was taken up to find out a cheap and effective easily available and harmless medicine to treat this disease. This is most important when a patient needs prolonged treatment.

Materials and Methods

One hundred and twenty patients within the age group of 12 yrs. to 70 yrs. of both sex were selected from the out patient department and grouped them into 3 at random. *Musta Curna*, *Aswagandha Curna* and *Pancakarma* therapy with *Moorcita Taila* was given in group I, II and III respectively. Out of 120 cases 30 cases in each group were completed the study. 10 cases in group I, 11 cases in group II and 9 cases in group III were dropped out due to intercurrent illness and various other reasons. Some patients had high fever and severe pain. *Amritarishta* - 30 ml. with *Cukkumthippalyadi Gutika* - 1 was given orally 3 times to control the acute condition.

Patients having duration of illness between 6 weeks to 5 yrs. are taken for the study. The period of treatment was fixed as 90 days. Signs and symptoms like morning stiffness, pain on motion or tenderness in at least one joint, swelling of at least one other joint, symmetrical joint swelling and subcutaneous nodule over bony prominences were taken as criteria for selection of the cases. Gout, osteoarthritis, tubercular arthritis, gonococcal arthritis, rheumatic fever and psoriatic arthritis were excluded from the study.

The following signs and symptoms were taken as criteria for assessment of the cases. Numerical values were given for each signs and symptoms for accurate assessment.

Table - I
Criteria for assessment

Parameters	Numerical Value
Morning stiffness	6
Pain on rest	9
Pain on motion	9
Swelling	15
Tenderness	20
Muscle power	10
Restriction of Joint motion	6
Subcutaneous nodule	2
Functional status	6
Fever	2
Elevated E.S.R. (1st hour)	6
Digestive impairment	9
Total	100

Investigations

The blood investigations-total leucocyte count, differential count, erythrocyte sedimentation rate, haemoglobin, R.A. factor, V.D.R.L., blood sugar, serum cholesterol and serum uric acid were estimated before and after the study. Routine examination of urine and stool were done before and after the study. The investigations were repeated regularly in 30 days. X-ray and E.C.G. were taken before and after the trial.

Treatment

In the treatment of *Amavata* since *Ama* is the main causative factor medicines selected should have such properties to digest *Ama*. In Yogaratnakara treatment

like *Langhana*, *Swedana*, *Deepana*, *Katutikta Rasa* drugs, *Recana*, *Snehana*, *Vasti*, *Rooksha Sweda* (*Valuka Sweda*) and *Sneha Varjita Upanaha Sweda* are prescribed (P.T. Sadasiva Shastri Joshi, 1939). *Musta* and *Aswagandha* are having the properties of *Deepana Pacana* as well as *Vata Hara* properties. The drug *Musta* is a powerful drug for all types of *Jwaras*, thirst, *Atisara* and *Chardi Samani* and it is *Mootrala* also (T.N. Nanupilla Asan, 1949). In *Bhavaprakasa* it is mentioned that *Musta* is *Sitaveerya*, *Grahi*, *Tikta*, *Kashaya Rasa*, *Deepana Pacani*, *Kaphapita Rakta Samani* and *Swasa Ruci Krimi Nasini* also (Bhavamishra, 1969). These properties of *Musta* expected to give good improvement in *Amavata*. The drug *Aswagandha* is having the properties

Diganostic schedule of the patients

Group	Drug	Dose	Anupana	Duration
I	<i>Musta Curna</i> (internally) <i>Valuka Sweda</i> (externally)	3gm.x3 (at 6 a.m., 12 noon & 5 p.m.)	Hot water	90 days
II	<i>Aswagandha Curna</i> (internally) <i>Valuka Sweda</i> (externally)	3gm.x3 (at 6 a.m., 12 noon & 5 p.m.)	Hot water	90 days
III	<i>Pancakarma</i> therapy with <i>Moorcita Tail</i> First stage <i>Shaddharana Curna</i> (internally) <i>Valuka Sweda</i> (externally)	3 gm. x 3 (at 6 a.m., 12 noon & 5 p.m.)	Hot water	7 days or till <i>Ama</i> Subsided

of *Ushna Veerya*, *Kasaya Thikta Rasa*, *Madhura Katupaka*, *Vatagni*, *Sleshmagni*, *Sothahara*, *Ksayahara*, *Balya* and *Rasayani* (Bavamisra, 1969). These properties of *Aswagandha* is expected to give good response in the treatment of *Amavata*. *Pancakarma* (except *Vamana*) have been taken up in this study to assess its efficacy on controlling the disease. In *Pancakarma* therapy *Moorcita Tila Taila* (Baishajya ratnavali, 1983) is used for *Snehapana* and *Vasti*. *Eranda taila* for *Vireca* and *Ksheerabala Taila 3 Avarti* for *Nasya*. Hospital diet was given to all the patients.

Pancakarma therapy was given in group III. In *Amavata Snehapana* is not advisable in *Amavasta Amavate Na Ca Sneha Na Ca Samshodhanam Hitam*. Hence *Shaddharana curna* 3 gm. with hot water was given at 7 a.m., 12 noon and 5 p.m. to control *Amavasta*. *Snehapana* with *Moorcita Tila Taila* starting with 25 ml. and increasing by 25 ml. on consecutive days for 7 days or till *Samyak Snigdha Lakshanai* are observed. *Vashpa Sweda* was given on 8th, 9th and 10th days. On 11th day *Vireca* with *Eranda Taila* 30 ml. was given. *Samsarjana* was given for 3 days on 12th, 13th and 14th day. 15th day onwards *Shaddharana Curna* 3 gm. with hot water orally at 6 a.m., 12 noon and 5 p.m. for 10 days. From 15th day after *Vireca* a course of *Yogavasti* (5 *Anuvasanas* and 3 *Nirooha Vasti*) was given. *Anuvasana* was given with *Moorcita Taila* 240 ml. and *Nirooha* with *Eranda Kwatha* 480 ml. + *Moorcana Taila* 240ml. Honey 240 ml. *Satahwa Kalka* 30 gm. and + *Saindhava* 15 gm. After completion of *Vasti* a course of *Nasya*

(7days) with *Ksheerabala Taila 3 Avarti* 5 drops was given.

Diet schedule

Morning - Rice & Kanji 150 gm. + pickles.

Noon - Rice & Kanji 150 gm. + 200 gm. vegetables.

Night - Rice & Kanji 150 gm. + 25 gm. green gram.

In group I & II the same diet schedule was followed through out the treatment.

In group III during first stage, *Vasti* and *Nasya* with the same diet schedule was followed. But during *Snehapana* period, - Morning - No diet. Noon - Rice & Kanji or *Manda* (if appetite started) and Night - Kanji & rice gruel or *Manda* were given.

Result and discussion

The result of the study was graded as
Good response: (a) 75% and above relief in presenting symptomatology of disease as mentioned in criteria for assessment.

(b) Lab. parameters tending towards normalcy.

Fair response: (a) When there is 50% and above relief in presenting clinical symptomatology of the disease as mentioned above.

(b) Significant improvement in lab. parameters.

Table- II
Response of treatment on the patients of *Amavata*

Sl. No.	Group	Durg	Result				Total
			G.R.	F.R.	P.R.	N.R.	
1.	I	<i>Musta Curna</i>	15	5	3	7	30
2.	II	<i>Aswagandha Curna</i>	12	7	5	6	30
3.	III	<i>Pancakarma</i> therapy	9	12	1	7	30
		Total	36	25	9	20	90

Table-III
Statistical study 't' and 'p' values treatment

Group	Numerical score of the patient				
	Before treatment Mean±SEM	After treatment Mean±SEM	't' Value	Degree of freedom	'p'-value
I	57.43 ±2.54	21.66 ±4.06	8.81	29	0.001
II	48.40 ±2.79	21.70 ±3.59	8.17	29	0.001
III	57.23 ±3.05	26.00 ±3.77	10.31	29	0.001

SEM - Standard error of mean,

Table value of 't' for 29 degrees of freedom at 0.1%, level=3.659, P<0.001 - Highly significant and a better result in group III.

Poor response: (a) When there is 25% and above relief in presenting clinical symptomatology as per mentioned formula.
(b) Insignificant improvement in lab. parameters.

No response: (a) No relief in

symptomatology or below 25% relief in presenting symptomatology.

Good response in 15 cases, fair response in 5 cases, poor response in 3 cases and no response in 7 cases were obtained in group I. In group II good response in 12 cases, fair response in 7

Table - IV
Age and sex-wise classification of the patients

Age group	Group I		Group II		Group III		Total
	M	F	M	F	M	F	
Upto 20 yrs.	2	3	1	2	-	-	8
21 - 30 yrs.	2	3	4	5	1	2	17
31 - 40 yrs.	1	4	1	2	-	5	13
41 - 50 yrs.	4	3	1	4	1	10	23
51 - 60 yrs.	2	3	1	7	2	8	23
61 & above	1	2	-	2	1	-	6
Total	12	18	8	22	5	25	90

Table - V
Analysed levels of fall in E.S.R. level in different groups

Groups	Numerical score of patients			
	Before treatment Mean \pm SEM	After treatment Mean \pm SEM	t value	p value
Group I				
Hb.%	57.83 \pm 1.97	57.67 \pm 1.43	0.09	P> 0.05
E.S.R.	78.7 \pm 6.07	51.87 \pm 5.52	4.07	P< 0.001
Group II				
Hb. %	57.00 \pm 2.19	58.66 \pm 1.74	0.97	P> 0.05
E.S.R.	73.13 \pm 5.83	49.4 \pm 5.67	3.72	P< 0.001
Group III				
Hb.%	58.67 \pm 1.22	58.83 \pm 1.33	0.11	P> 0.05
E.S.R.	87.73 \pm 5.02	61.67 \pm 5.74	4.63	P< 0.001

SEM = Standard error of mean, P>0.05 - Not significant, P<0.001 - Highly significant at 0.1% level

cases, poor response in 5 cases and no response in 6 cases were obtained. Good response in 9 cases, fair response in 13 cases, poor response in one case and no response in 7 cases were obtained in group III (Table I). The result of the study in all the three groups were encouraging and statistically highly significant ($P<0.001$). Numerical score of each patient before and after the treatment are taken for the calculation of 't' value. Among the groups, *Pancakarma* group had better result than *Musta* and *Aswagandha* groups (Table II).

On sex-wise classification majority of the patients were females. People of 41-60 yrs. of age groups were mostly affected (Table III). On analysis of investigation of blood, considerable reduction in E.S.R. were found in all the three groups. In almost 30% of the cases (in all 3 groups) E.S.R. level became normal. The reduction of E.S.R. is statistically highly significant ($P<0.001$) (Table IV). There were slight improvement in haemoglobin also noted. R.A. factor was positive in some cases but there was no change after treatment. The serum uric acid was within normal range. Investigation of urine and motion did not show any remarkable change. Osteoporosis were noted in most of the X-rays initially and did not show any change after treatment.

Conclusion

Though significant result was obtained in all the three groups, the result in *Pancakarma* group was better in comparison with other two groups. As

discussed earlier, in *Amavata*, *Ama* is responsible for the disease and *Vata* gets vitiated due to *Ama*. Hence *Ama* should be digested and then treatment should be given for *Vata*. *Musta* and *Aswagandha* are good for *Ama pacana* and showed good response in treatment of *Amavata*. In *Pancakarma* group also initially *Deepana Pacana* drugs-*Shaddharana curna* was given to control *Ama* stage of the disease. Without controlling the *Ama*, *Pancakarma* therapy can't be given. Hence the *Pancakarma* therapy given after the complete digestion of *Ama* gave better result than other two groups. The better result obtained in *Pancakarma* group establishes the need of *Pancakarma* therapy for *Amavata* especially to control *Vata* when the *Ama* is completely digested. In the first two groups - *Musta* and *Aswagandha* the drugs acted well and controlled the *Ama*. The result also establishes the treatment procedure given in the Ayurvedic literature.

From the above study it is seen that along with the *Amapacana* and *Sotahara* drugs, rest, mild physiotherapy, restricted diet, and heat application were also helped in getting good results.

On follow up recurrence was less in short duration of illness. In patients with long standing illness have to continue medicine for three to five years.

Acknowledgement

Authors are thankful to all the staff members of the institute in bringing out the work successfully. We are indebted to the Director, C.C.R.A.S. for his guidance.

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हिन्दी सारांश

मुस्ता, अश्वगंधा एवं पंचकर्म चिकित्सा का आमवात में नैदानिक
तुलनात्मक चिकित्सीय अध्ययन

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नायर एवं सुरेश कुमार

आमवात संधियों में होने वाली एक व्याधि है। मुख्य रूप से यह व्याधि शरीर में कफ और वात के असंतुलन से प्रारंभ होती है। चेरुथुरुथी के भारतीय पंचकर्म संस्थान द्वारा आमवात के १२० रोगियों पर एकल औषधियों तथा पंचकर्म चिकित्सा का तुलनात्मक अनुसंधानिक अध्ययन किया गया।

प्रस्तुत शोधपत्र में मुस्ता, अश्वगंधा तथा पंचकर्म चिकित्सा का प्रभाव, तीन विभिन्न वर्गों में ९० दिन तक विभिन्न रोगियों में देखा गया। यद्यपि सांख्यकीय दृष्टिकोण से तीनों वर्गों के परिणाम उत्साहवर्धक पाये गये लेकिन पंचकर्म चिकित्सा का परिणाम, मुस्ता व अश्वगंधा वर्गों की तुलना में अधिक प्रभावकारी सिद्ध हुआ।