



Comparative Clinical Evaluation on Virechan Karma (Induced purgation) and Rasayana (Rejuvenation) Therapy in the management of Amavata (Rheumatoid arthritis)

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ABSTARCT

In this clinical study 66 *Amavata* (Rheumatoid arthritis) patients were registered from the O.P.D. & I.P.D. of the Institute of Post Graduate Ayurvedic Education and Research, Kolkata and 6 patients discontinued before completion of the treatment. In Group-A, 30 patients completed the treatment out of 34 and 4 patients left the treatment before completion of the course. The treatment schedule was *Sneha pana* (Orally intake of Ayurvedic medicated oil), *Niragnik swedana* (Sweating by without heat) and *Virechan karma* (Induced purgation by Ayurvedic procedure). In Group-B, 30 patients completed the treatment out of 32 and 2 patients left the treatment before completion of the course. The treatment schedule was *Sneha pana* (Orally intake of Ayurvedic medicated oil), *Niragnik swedana* (Sweating by without heat), *Virechan karma* (Induced purgation by Ayurvedic procedure) and *Vardhaman Pippali Rasayan sevan* (Rejuvenation with orally intake of *Piper longum* mature dried fruit powder in gradual increased and decreased dose). The aim of the study was comparative clinical evaluation between Group-A and Group-B in management of *Amavata* (Rheumatoid arthritis). In Group-A 60% and in Group-B 70% showed Major improvement. 40% in Group-A and 30% in Group-B showed Minor improvement. No-improvement and Complete remission was nil in both groups. No complication was found in this clinical study and Group-B was more effective management than Group-A.

Key words: *Amavata*, Rheumatoid arthritis, Female, 30 to 50 years of age, *Virechan karma*, *Rasayana*.

INTRODUCTION

Madhava kar (700AD) mentioned first the *Amavata* as a special disease entity in Ayurveda and where *Ama* (biotoxin) as well as *Vata* (biophysical force or kinetics) plays a predominant role in the *samprapti* (pathogenesis) of the disease *Amavata*¹. Rheumatoid arthritis is a chronic, progressive autoimmune arthropathy and characterized by bilateral symmetrical involvement of joints with some systemic clinical manifestations². According to the clinical manifestations, the disease *Amavata* very closely resembles with the Rheumatoid arthritis. In modern era Rheumatoid arthritis is a most burning problem in the society. Till now the suitable effective treatment of this disease is not available in the modern medicine. In this disease young aged peoples are mostly affected and the patients are gradually crippled

physically as well as mentally due to bad prognosis of the disease. Nowadays it draws major attention to the different scholars for research purpose. Ayurveda is an ancient scientific medical knowledge in the world. So many Ayurvedic managements had been described in the different Ayurvedic classical books for the treatment of *Amavata* (Rheumatoid arthritis). Such Ayurvedic management i.e. *Sneha pana* (Orally intake of Ayurvedic medicated oil), *Niragnik swedana* (Sweating by without heat), and *Virechan karma* (Induced purgation by Ayurvedic procedure)³ and *Vardhaman Pippali Rasayan sevan* (Rejuvenation with orally intake of *Piper longum* mature dried fruit powder in gradual increased and decreased dose) after some dose modification had been selected for this comparative clinical study between two groups on the management of *Amavata* (Rheumatoid arthritis)⁴.

Aims & Objectives:

- To ameliorate the clinical manifestations of *Amavata* (Rheumatoid arthritis), minimize the periodic fluctuation of *Amavata* (Rheumatoid arthritis) and increase the work ability of the patient.
- To assess the effect of the Ayurvedic management in the treatment of *Amavata* (Rheumatoid arthritis).
- To compare clinically the efficacy of Ayurvedic management of two groups in the treatment of *Amavata* (Rheumatoid arthritis).

MATERIALA & METHODS

Total numbers of 66 *Amavata* (Rheumatoid-arthritis) patients were registered for the present clinical study as per the criteria for the diagnosis of the *Amavata* (Rheumatoid-arthritis) and 6 patients were dropped out from the treatment before completion of the management. The patients were selected from the O.P.D. and I.P.D. of the Institute of Post Graduate Ayurvedic Education and Research, Kolkata, according to following inclusion and exclusion criteria:-

Inclusion criteria:

- Patient between 18 to 60 years of age of both sexes.
- The patient having the clinical features of *Amavata* according to Ayurvedic classics.
- The patient who fulfilled the revised criteria for Rheumatoid arthritis fixed by the American College of Rheumatology in 1987⁵.

Exclusion criteria:

- Osteoarthritis, Rheumatic arthritis, Septic arthritis, Gouty arthritis, Psoriatic arthritis, Traumatic arthritis, SLE (Systemic lupus erythematosus).
- Diabetes Mellitus, Hypertension, Tuberculosis, Thyroid disorders, Cardiac problems, Renal problems, Liver problems, HIV and any Malignancy.
- Age below 18 years and above 60 years.

The *Amavata* (Rheumatoid arthritis) was diagnosed on the basis of clinical manifestations as described in Ayurvedic and Modern texts. R-A-factor and C-Reactive-Protein investigations had been done in all the patients for diagnosis and severity of the disease. Routine Blood, Urine and Stool examinations along with Serum uric acid, urea, creatinine, ASO titer, ANF, Lipid profile, Liver function test, ECG, Fasting Blood Sugar had been done to exclude other pathological conditions of the registered patients.

Plan of Study: The selected patients were randomly divided into following two groups i.e. Group-A and Group-B. In Group-A, 30 patients completed the therapy out of register 34 patients and 4 patients left the therapy before completion of the course. In Group-B, 30 patients completed the therapy out of register 32 patients and 2 patients left the therapy before completion of the course. In Group-A, the selected patients were given *Sneha pana* (Orally intake of Ayurvedic medicated oil), *Niragnik swedana* (Sweating by without heat) and *Virechan karma* (Induced purgation by Ayurvedic procedure). In Group-B, the selected patients were given *Sneha pana* (Orally intake of Ayurvedic medicated oil), *Niragnik swedana* (Sweating by without heat), *Virechan karma* (Induced purgation by Ayurvedic procedure) and *Vardhaman Pippali Rasayan sevan* (Rejuvenation with orally intake of *Piper longum* mature dried fruit powder in gradual increased and decreased dose). *Sneha pana* was done by taking orally of *Murcchit Til taila* (Sesame oil is processed with Ayurvedic medicinal plants in Ayurvedic procedure) with different doses i.e. 20 ml to 120 ml for 3 to 7 days in empty stomach according to the *rogi bala* (general condition of the patient) and *roga bala* (stage of the

disease). *Niragnik swedana* was done with *Guru pravaran* in the morning (cover the whole body of the patient with blanket for good sweating). *Virechan karma* was done with *Eranda taila pana* (orally intake of castor oil i.e. *Ricinus communis*) in the dose of 30 ml to 80 ml with luke warm water for one day on the basis of *rogi bala*, *roga bala* and *kostha* (bowel habit) and then *Samsarjan karma* (post virechan karma management) for 3 to 7 days on the basis of *rogi bala* and *roga bala* and lastly followed *Vardhaman Pippali Rasayan sevan* therapy after some modification of its dose i.e. orally intake of *Pippali churna* (mature and dried fruit powder of *Piper longum*) was started the dose from 250 mg twice in a day with 5 ml *Madhu* (honey) after lunch and dinner (i.e. b.d.p.c.) on the first day. It was increased by 125 mg in each dose daily up to the maximum dose of 1375 mg twice in a day within 10 days and then it was tapered by 125 mg daily in each dose up to initial dose of 250 mg twice in a day for further 10 days. Total *Vardhaman Pippali Rasayan sevan* therapy was done for 20 days. The dose schedule of *Vardhaman Pippali Rasayan sevan* therapy which was administered in the present study is given in the table No. 1:-

Table-1: - Dose schedule of Vardhaman Pippali Rasayan therapy

Day	Dose
1 st	250 mg <i>Pippali churna</i> mixed properly with 5 ml honey twice daily after lunch and dinner (i.e. b.d.p.c.)
2 nd	375 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
3 rd	500 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
4 th	625 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
5 th	750 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
6 th	875 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
7 th	1000 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
8 th	1125 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
9 th	1250 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
10 th	1375 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
11 th	1375 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
12 th	1250 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
13 th	1125 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
14 th	1000 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
15 th	875 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
16 th	750 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
17 th	625 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
18 th	500 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
19 th	375 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.
20 th	250 mg <i>Pippali churna</i> with 5 ml honey b.d.p.c.

According to the Ayurvedic conception some important instructions were given to the patient during the management those were to avoid cold drinks, ice cream, curds, banana, coconut, black gram, tobacco, smoking, alcohol, alcohol containing other beverages, cold water for bathing and drinking, sleep in day time. To use luke warm water for bathing and drinking⁶.

Assessment parameters: Three assessment parameters were adopted for the present clinical study which were as follows:-

(I) Assessment of Clinical Features: The progress of clinical manifestations of *Amavata* (Rheumatoid arthritis) patients of the present clinical study was assessed on the basis of common important clinical

manifestations of *Amavata* which are mentioned in Ayurvedic classics as well as clinical manifestations are closely resembled with Rheumatoid arthritis and also with the help of criteria fixed by the American Rheumatology Association in 1988 and implemented it after some modification. *Sandhishula* (Joint pain), *Sandhishotha* (Joint swelling), *Sandhi-stabdhata* (Joint stiffness), *Sandhi-sparsha-asahyatva* (Joint tenderness), *Angamarda* (Body ache), *Gaurava* (Heaviness of the Body), *Agni-dourblya* (Impaired digestive capacity) were selected as common important clinical manifestations of *Amavata* for this study and the scoring pattern was adopted separately for assessment of those clinical manifestations.

(II) Assessment of Functional Capacity: Functional capacity of the patients was assessed by the help of three parameters which were (i) **Walking time:** The patients were asked to walk the distance of 50 feet and the time taken was recorded before and after the treatment with stop watch, (ii) **Grip Strength:** The patients were asked to compress an inflated ordinary sphygmomanometer cuff with the help of affected hands under standard condition of pressure (i.e. 20 mmHg) to measure the functional capacity of the affected upper limb, especially for both hands and wrist joints and it was recorded before and after the treatment, (ii) **Foot pressure:** The patients were asked to press the weighing machine with the help of affected leg to measure the functional capacity of the affected lower limb (especially affected ankle joint and foot) and it was recorded before and after the treatment.

(III) Assessment of Overall Effect of the Therapy: The overall effect of the therapy of the present clinical study was assessed with the help of the criteria adopted from ARA (American Rheumatology Association) (1988) and it was implemented in the present study after some modification. Results of the present clinical study were classified in to four groups those were: i) Complete Remission, ii) Major Improvement, iii) Minor Improvement and iv) No-improvement.

OBSERVATIONS

Most of the patients i.e. 63.16 % belonged to 30 – 50 years of age group. 82.25% patients were Female, 77.37 % patients were Hindu, 94.68 % patients were Married, 71.14 % patients were Housewives (as, maximum patients were middle aged female), 86.73 % were Educated from primary to graduate level, 83.56 % were non-vegetarian, 66.78 % were coming from Middle class, 73.36 % were in urban habitat. Maximum patients i.e. 55.78 % were having Negative Family history, 81.35 % patients were having Gradual Onset, 93.45 % patients were having Relapsing Course and 45.56 % were having Chronicity of less than 2 years, 80.21 % patients were of Poor Appetite, 44.76 % were *Krura Kostha* (Constipated). All the patients suffered more in *Varsha ritu* (Rainy season) & *Shita ritu* (Winter season). Cold and moist environment was Aggravating factor for all the patients.

C-Reactive-Protein positive was found in 69.65% patients and it expresses the percentage of severe case in the study, R.A. factor positive was found in 24.41% patients and it supports the criteria of Rheumatoid arthritis by the American Rheumatology Association in 1988 that R. A. Factor positive is not a compulsory criteria for Rheumatoid arthritis, Rheumatoid nodule and Deformity were observed in 19.23% and 4.16% patients respectively.

In majority of patients (92.33%) wrist joint was involved along with Metacarpophalangeal (84.23%), Metatarsphalangeal (82.57%), Ankle (82.14%), Knee (73.46%), Elbow (25.47%), PIP (26.65%), Shoulder (11.31%), Hip (4.55%), Jaw (3.45%), DIP (6.46%), Lumbo-sacral (4.52%) and Cervical (2.43%) joints were involved.

According to *Samanya Lakshana* (General clinical features) *Angamarda* (body ache), *Gaurava* (heaviness of the body) and *Agni-daurbalya* (impaired digestive capacity) were observed in 69.44%, 64.57% and 83.76% patients respectively.

According to *Pratyatma Lakshana* (Cardinal clinical features) all the patients were suffering from *Sandhishula* (Joint-pain), *Sandhi-shotha* (Joint-swelling), *Sandhi-stabdhata* (Joint-stiffness) and *Sandhi-sparshasahyata* (Joint-tenderness).

RESULTS AND DISCUSSION

Results of the therapy in Group-A and Group-B are presented consecutively in the table 2, 3, 4, 5, 6, 7, 8, 9 and 10.

In Group-A:

Table 2-Effect of the therapy on the following Clinical manifestations

Clinical features	Mean Score		% of Relief	S.D.	S.E.	't'	P
	B.T.	A.T.					
<i>Sandhishula</i> (Joint pain)	2.13	1.46	31.37	0.45	0.06	8.4	<0.001
<i>Sandhishotha</i> (Joint swelling)	1.41	0.76	45.59	0.46	0.06	8.3	<0.001
<i>Sandhi-sthabdhata</i> (Joint stiffness)	2.16	1.38	35.61	0.40	0.05	11.57	<0.001
<i>Sandhi-sparsha-asahyatva</i> (Joint tenderness)	1.76	1.11	36.60	0.46	0.06	8.49	<0.001
<i>Angamarda</i> (Body ache)	2.20	1.17	42.52	0.38	0.08	14.89	<0.001
<i>Gaurava</i> (Heaviness of the Body)	2.20	1.50	35.2	0.48	0.09	9.56	<0.001
<i>Agni-dourblya</i> (Impaired digestive capacity)	2.20	1.05	48.70	0.18	0.05	37.02	<0.001

Table 3-Effect of the therapy on the following parameters of Functional capacity

Criteria	Mean Score		% of Relief	S.D.	S.E.	't'	P
	B.T.	A.T.					
Walking time	12.20	11.02	9.67	0.57	0.11	13.54	<0.001
Grip strength	94.02	98.19	4.46	2.04	0.36	12.22	<0.001
Foot pressure	21.75	23.57	8.42	0.89	0.16	13.23	<0.001

Table 4-Overall effect of the therapy

Effects	No. of Patients	Percentage (%)
Complete Remission	00	00
Major Improvement	18	60
Minor Improvement	12	40
No-Improvement	00	00

In Group-B:**Table 5: - Effect of the therapy on the following Clinical manifestations**

Clinical features	Mean Score		% of Relief	S.D.	S.E.	't'	P
	B.T.	A.T.					
<i>Sandhishula</i> (Joint pain)	2.19	0.77	64.67	0.48	0.06	16	<0.001
<i>Sandhishotha</i> (Joint swelling)	1.91	0.73	61.01	0.36	0.04	18.30	<0.001
<i>Sandhi-sthabdhata</i> (Joint stiffness)	2.21	0.78	66.27	0.48	0.06	18.43	<0.001
<i>Sandhi-sparsha-asahyatva</i> (Joint tenderness)	2.01	0.73	62.94	0.43	0.05	17.81	<0.001
<i>Angamarda</i> (Body ache)	2.2	0.71	65.40	0.49	0.09	17.49	<0.001
<i>Gaurava</i> (Heaviness of the Body)	2.2	0.82	60.03	0.43	0.08	18.75	<0.001
<i>Agni-dourblya</i> (Impaired digestive capacity)	2.2	0.95	53.77	0.29	0.06	25.51	<0.001

Table 6: - Effect of the therapy on the following parameters of Functional capacity

Criteria	Mean Score		% of Relief	S.D.	S.E.	't'	P
	B.T.	A.T.					
Walking time	12.63	10.63	15.79	0.21	0.02	55.87	<0.001
Grip strength	88.73	97.73	10.12	5.48	0.85	10.31	<0.001
Foot pressure	19.76	22.58	14.27	0.85	0.12	20.43	<0.001

Table 7: - Overall effect of the therapy

Effects	No. of Patients	Percentage (%)
Complete Remission	00	00
Major Improvement	21	70
Minor Improvement	09	30
No-Improvement	00	00

Effect of the therapy on following parameters of Functional Capacity in Group A & B:

Table No.-8: Walking time:

Group-A		Group-B		S.D.	S.E.	't'	P
n ₁	X ₁	n ₂	X ₂				
30	1.9	30	1.17	1.07	0.08	8.6	<0.001

Table No.-9: Grip strength:

Group-A		Group-B		S.D.	S.E.	't'	P
n ₁	X ₁	n ₂	X ₂				
30	8.9	30	4.16	2.03	0.35	13.29	<0.001

Table No.-10: Foot pressure:

Group-A		Group-B		S.D.	S.E.	't'	P
n ₁	X ₁	n ₂	X ₂				
30	2.82	30	1.82	1.34	0.18	5.11	<0.001

In the Group-A and Group-B of the present clinical study, the results were statistically highly significant ($P < 0.001$) on the parameters of Clinical manifestations and Functional capacity which are shown respectively in the table 2, 3, 5 and 6. The results of comparative clinical study between Group A and B were statistically highly significant ($P < 0.001$) on the parameters of Functional capacity of Walking time, Grip strength and Foot pressure which are shown in the table 8, 9 and 10 respectively. It is revealed that group-B treatment was more effective than group-A treatment in respect of Functional capacity parameters⁷. Overall Effect of the Therapy of the both group A and B which is shown in the table 4 and 7 respectively, expresses that maximum patients i.e. 60% in Group-A and 70% in Group-B showed Major improvement. 40% in Group-A and 30% in Group-B showed Minor improvement, No-improvement and Complete remission was nil in both groups. No complication was observed in the present clinical study.

Probable mode of action of the Ayurvedic management of this clinical study is that *Murchit Til taila* has *vata-kpha-samak* (aggravated vata-kapha dosha reducing), *deepan* (enzyme activating), *ama-pachan* (biotoxin neutralizing) property; *Eranda taila* has *vata-kapha-samak Amavatahara* (antirheumatic) property; *Niragnik Swedana* has *vedanasthapana* (analgesic), *gaurabatanasak* (heaviness of body reducing), *stabdhatanasak* (stiffness of body reducing), *shothaghna* (oedema reducing), *vata-kapha-samak* property; *Virechan karma* is *prokapita dosha nisharak* (vitiated dosha or bio-toxin eliminating); *Pippali churna* (mature and dried *Piper Longum* fruit powder) has *deepan* (enzyme activating), *ama-pachan* (biotoxin neutralizing), *jwaragna* (antipyretic), *shulahara* (pain reducing), *vata-kapha-samak*, *Rasayana* (Rejuvenation) property and *madhu* (honey) has *lekhan* (scraping), *balya* (energy enhancer), *kapha-samak* (aggravated kapha dosha reducing), *yogavahi* (co-ingredient property adopting capacity), *sukshma* (minute

channel entering capacity) property. *Vardhaman Pippali sevan* is a *Rasayan* (Rejuvenation) therapy that means it improves the body immunity and as a result it prevents the relapse of the disease as well as restores the affected muscle power and joint functions. Important instructions for patients for restriction on diet and life style helped to prevent the further formation of *Ama* (biotoxins) into the body. Hence, these combined therapy of Ayurvedic treatment helped to eliminate the *Ama* (biotoxins) from the body, to enhance the *Agni* (Digestive capacity) into the body, to break down the *samprapti* (pathogenesis) of Amavata and to reduce the clinical manifestations of Amavata.

CONCLUSION

It can be concluded on the present clinical study that *Amavata* looks similar to Rheumatoid arthritis on the basis of its clinical appearance and pathogenesis; 30 to 50 years age group of females were mainly affected with this disease and Group-B therapy is more effective than Group-A therapy in the treatment of *Amavata* and it was happened due to the combined effect of *Sneha pana* (Orally intake of Ayurvedic medicated oil), *Niragnik swedana* (Sweating by without heat), *Virechan karma* (Induced purgation by Ayurvedic procedure) and *Vardhaman Pippali Rasayan sevan* (Rejuvenation with orally intake of *Piper longum* mature dried fruit powder in gradual increased and decreased dose) in Group-B therapy compare to the combined effect of *Sneha pana* (Orally intake of Ayurvedic medicated oil), *Niragnik swedana* (Sweating by without heat) and *Virechan karma* (Induced purgation by Ayurvedic procedure) in Group-A therapy.

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