



Clinical Research

Clinical evaluation of *Vardhamana Pippali Rasayana* in the management of *Amavata* (Rheumatoid Arthritis)

Anamika Soni¹, Kalapi Patel², S. N. Gupta³

¹Lecturer, Department of Kaya Chikitsa, ²Reader and Head, Department of Panchakarma, ³Professor and Head, Department of Kaya Chikitsa, JS Ayurveda College, Nadiad, Gujarat, India

Abstract

Amavata is described as a difficult to cure (*Krichhrasadhya*) disease in *Ayurveda*. Pain in joints with swelling is a cardinal feature of this disease. It can be correlated with rheumatoid arthritis described in modern medical science. In conventional medical science, steroids and some nonsteroidal anti-inflammatory drugs are used for its management, but they cause certain dangerous side effects in the patients. *Ayurveda* promises an excellent therapy for it. The present clinical trial was conducted with the same objective to provide a safe, economical and effective therapy to the patients of *Amavata*. The present study was conducted in 73 patients having classical symptoms of *Amavata*. The patients were given *Vardhamana Pippali Rasayana* for 15 days. Patients with any other acute or chronic systemic illness or infection were excluded from the study. The observations and results obtained were analyzed statistically applying the “t” test. All the patients experienced up to 50% relief from the signs and symptoms of *Amavata* after the therapy. The drug might have produced its beneficial effects in the patients of *Amavata* due to its *Agnideepana*, *Amapachana*, *Vatashamaka* and *Rasayana* effects in the body. A significant decrease in the erythrocyte sedimentation rate in all the patients was also noticed. All the results obtained were highly significant statistically. Thus, it can be implicated that the *Vardhamana Pippali Rasayana* has a lot of beneficial effects in the patients of *Amavata*.

Key words: *Amavata*, *Rasayana*, Rheumatoid arthritis, *Vardhamana Pippali*

Introduction

Amavata is one of the most difficult to cure (*Krichhrasadhya*) diseases mentioned in *Ayurveda*. The main pathological factor in the development of this disease is “*Ama*”. *Ama* is a substance which is produced in the body due to weakness of *agni*.^[1] This *Ama* is then carried by “*Vata*” and travels throughout the body and gets accumulated in the joints, which is the seat of “*Kapha*”. As this process continuous, all the joints are gradually affected, which results in severe pain and swelling in the joints.^[2] When “*Pitta*” also gets associated, it causes burning sensation around the joints. Clinically, it is very much close to rheumatoid arthritis described in modern medical science, which is a chronic inflammatory autoimmune disease involving multiple joints of the body. In modern medicine, the treatment of the disease includes steroids and immunomodulator drugs together with nonsteroidal anti-inflammatory drugs (NSAIDs).^[3] Long-term

use of these drugs has many adverse effects on the other systems of the body. But the use of Ayurvedic drugs having *Dipana*, *Pachana*, *Srotoshodhana* and *Rasayana* actions like *Pippali* (*Piper longum*) can be beneficial to these patients. Further, it is free from the serious adverse effects as compared to the modern conventional therapy, provided it is given in proper dose and regimen.

Pippali has *Dipana*, *Pachana* and *Rasayana* actions^[4] and is helpful in alleviating *Ama* from the body which is the basic pathological factor in this disease, i.e. rheumatoid arthritis. It is one of the *Rasayana* drugs described in *Charaka samhita*.^[5] The use of *Pippali* in gradually increasing and tapering dose known as *Vardhamana Pippali* is more effective because it can be administered in its maximum doses without any discomfort to the patient. The present clinical study was carried out in 73 clinically diagnosed cases of *Amavata* (rheumatoid arthritis) to evaluate the role of *Vardhamana Pippali Rasayana* in *Amavata*.

Aims and objectives

1. To evaluate the efficacy of *Vardhamana Pippali* in patients of *Amavata* (rheumatoid arthritis)
2. To provide a safe, economical and effective remedy to the patients of *Amavata*

Address for correspondence: Dr. Kalapi Patel,
Doctors' Staff Quarters, JS Ayurved Mahavidyalaya, College
Road, Nadiad - 387 001, India.
E-mail: drkalapi@rediffmail.com

Materials and Methods

Clinical study

The clinical study was carried out in 73 clinically diagnosed patients of *Amavata* registered in IPD of JS Ayurvedic College and PD Patel Ayurvedic Hospital, Nadiad.

Inclusion criteria

The criteria of inclusion of patients were based on the signs and symptoms of *Amavata* (rheumatoid arthritis). They are

- morning stiffness (>1 hour);
- arthritis of three or more joints and
- symmetrical arthritis.

The patients were selected randomly irrespective of their age, sex, religion, etc.

Exclusion criteria

The patients having any other chronic systemic illness, metabolic diseases like gout, with severe deformities and endocrinological diseases were excluded from the study.

Criteria for assessment

All the symptoms were given score to assess the effect of the treatment objectively. Erythrocyte sedimentation rate (ESR) was recorded before and after the treatment. The scoring pattern is as given in Table 1.

Criteria for assessment of the effect of Vardhamana Pippali Rasayana on symptoms of Amavata

Unchanged: Less than 25% relief in symptoms

Improved: 25-49% relief in symptoms

Markedly improved: 50-99% relief in symptoms

Complete remission: 100% relief in symptoms

Table 1: Gradation of symptoms for assessment

Symptom	Score
<i>Sandhishula</i> (pain in joints)	
No pain	0
Pain only on movement	1
Pain on rest but no disturbance in routine	2
Severe pain, disturbance in routine activities	3
<i>Sandhijadyata</i> (stiffness in joints)	
No stiffness	0
Stiffness persisting only for half an hour to 1 hour in the morning	1
Stiffness persisting for a long time (>1 hour)	2
Stiffness for whole day and night	3
<i>Sandhishotha</i> (swelling in joints)	
No swelling	0
Mild swelling	1
Moderate swelling	2
Marked swelling	3
Restriction of movements	
No restriction	0
Restricted movement but person can perform daily routine	1
Patient cannot perform daily routine except his personal care	2
Patient can manage his/her personal care only with help	3

Administration of the drug

Drug: *Pippali Churna* (powder of *P. longum*)

Powder of *Pippali* (*P. longum*) in *Vardhamana Krama*, i.e. starting the dose from 1 g on the first day, twice a day with honey, was given. It was increased by 1 g daily up to a maximum dose of 5 g twice a day. The maximum dose, i.e. 5 g, was given for 5 days and then it was tapered by 1 g daily to a dose of 1 g twice a day. Patients were kept on *Mudga yusha*. Total duration of the treatment was 15 days. All the patients were given *Mridu Virechana* with *Eranda taila* (Castor oil) in doses of 30-40 ml with hot water according to their *Koshtha* and the strength on next day after the completion of the *Vardhamana Pippali* regimen. Any change in symptoms and ESR was recorded after the completion of regimen.

Results and Observations

Tables 2-6 show the results and observations of the study. Total 43 patients (58.9%) were in the age group of 41-60 years, followed by 24 patients (32.8%) in the age group of 21-40 years. 4 patients (5.47%) were aged more than 60 years and only 2 patients (2.73%) were less than 20 years of age [Table 2]. Total 57 (78.08%) patients were females, whereas 16 (21.90%) patients were males [Table 3]. Maximum, i.e. 41% patients, were suffering from the disease for less than 1 year, 38.35% patients were having duration of illness 1-3 years and 20.54% patients were having symptoms of the disease for more than 1 year [Table 4]. Improvement in the symptom of pain in joints was 50.56% which is statistically highly significant. Stiffness in the joints decreased by 48.57% which is statistically highly significant.

Swelling in the joints also decreased by 53.22% which is also statistically highly significant. The improvement in the symptom of restriction in the movements in the joints was 46.43% which is statistically highly significant [Table 5]. A significant decrease

Table 2: Age wise distribution of 73 registered patients of Amavata

Age (years)	Number of patients
<20	2
21-40	24
41-60	43
>60	4

Table 3: Sex wise distribution of 73 registered patients of Amavata

Sex	Number of patients
Male	16
Female	57

Table 4: Chronicity wise distribution of 73 registered patients of Amavata

Chronicity (years)	Number of patients
<1	28
1-3	30
>3	15

Table 5: Effect of Vardhamana Pippali Rasayana on the symptoms of Amavata in 73 registered patients of Amavata

Symptom	Mean score		% Improvement	SD	SE	t	P
	BT	AT					
Pain in joints	2.43	1.20	50.56	0.41	0.04	25.00	<0.001
Stiffness in joints	2.13	1.10	48.07	0.57	0.06	15.22	<0.001
Swelling in joints	1.69	0.79	53.22	0.35	0.04	21.91	<0.001
Restriction of movements	1.93	1.06	46.20	0.68	0.07	11.49	<0.001

Table 6: Effect of Vardhamana Pippali Rasayana on ESR in 73 registered patients of Amavata

Lab. parameter	Mean score		% Improvement	SD	SE	t	P
	BT	AT					
ESR (mm/1 hour)	80.17	62.41	17.67	22.54	2.63	6.73	<0.001

in ESR (17.67%) was observed in the patients registered for the study after the completion of treatment course, which is statistically highly significant [Table 6].

During the course of the treatment, none of the patients showed any adverse reactions.

Discussion

The basic pathology in the Amavata is the formation of Ama in the body due to Agnimandya,^[1] followed by vitiation of all the three doshas, predominantly Vata. Rheumatoid arthritis is an autoimmune disorder and it can be equated with Amavata. Balabhrmasha is described as one of the clinical consequences of Ama. Balabhrmasha may be interpreted as Ayathapravrutti of Bala. Bala is very well accepted as an immune component by Ayurvedic scholars. Hence, Balabhrmasha or Ayathapravrutti of Bala can be understood as altered immune activity or autoimmune disorders. The use of Pippali in increasing and tapering doses is known as "Vardhamana Pippali". It is very effective because it can be administered in its maximum doses without any discomfort to the patient. Of all the 73 patients registered for the present study, 43 patients (58.9%) were in the age group of 21-40 years and most of them (78%) were females. Most of the patients were having duration of illness 1-3 years. The use of Vardhamana Pippali Rasayana in 73 registered cases of Amavata caused 50.56% relief from the symptom of pain in joints, 48.7% relief from the symptom of stiffness in the joints, 53.25% relief from the swelling in joints and 46.20% relief from restriction of movements. All these results were found to be statistically highly significant ($P < 0.001$). A remarkable reduction (17.76%) in ESR was also noticed in the patients registered for the current clinical study and this result is also statistically highly significant ($P < 0.001$). Further, no specific side/adverse effects were noticed in any of the patients registered for the present clinical trial.

Pippali is one of the Rasayana drugs described in Ayurveda. It has Agnidipana and Amapachana actions and is helpful in the alleviation of Ama from the body which is the main pathological

factor in Amavata, i.e. rheumatoid arthritis. Pippali alleviates Ama, the factor responsible for Balabhrmasha or development of autoimmune disorders in the body, resulting in the correction in immune system activities. Pippali has rasayana and immunomodulator actions. Thus, because of all these actions together, it plays an important role in the Samprapti-vighatana of the Amavata, i.e. rheumatoid arthritis. Further, the drug is very much economical and the therapy is very cost-effective also.

Conclusion

On the basis of observations and discussion of this study, the following conclusions can be drawn.

1. Vardhamana Pippali Rasayana has a lot of beneficial effects in the patients of Amavata.
2. It is free from any side effects.
3. It is also very much cost-effective.

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हिन्दी सारांश

आमवात में वर्धमान पिप्पली का चिकित्सकीय अध्ययन

अनामिका सोनी, कलापी पटेल, एस. एन. गुप्ता

आमवात एक जीर्ण एवं कृच्छ साध्य व्याधि है जिसमें मुख्यतः सन्धिशूल एवं शोथ होता है। इस रोग की आधुनिक विज्ञान में रुमेटोइड आर्थराइटिस के साथ समानता देखी जा सकती है। आधुनिक विज्ञान में इस रोग की चिकित्सा के लिये स्टेराइड्स एवं अन्य शोथहर औषधियां दी जाती हैं जिनके भयंकर दुष्प्रभाव होते हैं। इस लिये रोगी अन्य चिकित्सा पद्धतियों का आश्रय लेना उचित समझते हैं। इसमें आयुर्वेद को आशा के एक प्रकाश पुंज के रूप में देखा गया है। इस रोग में रसायन का प्रयोग अति लाभकारी सिद्ध हो सकता है। इसी आधार पर रोगियों में वर्धमान पिप्पली रसायन का प्रयोग किया गया। इस अध्ययन में ७३ रोगियों पर वैज्ञानिक रूप से निरीक्षण किया गया तथा उनको वर्धमान क्रम से पिप्पली चूर्ण का रसायन रूप में १५ दिन तक प्रयोग कराया गया। इस अध्ययन में आमवात के सभी लक्षणों में करीब ६०% तक राहत देखी गयी। ESR में भी प्रायः १७% तक कमी देखी गयी। यह सभी परीक्षण सांख्यिकी अनुसार उच्चतम गुणवत्ता युक्त पाये गये।

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