



Prognostic Effect of *Amavatari Ras* in the Management of Rheumatoid Arthritis vis-a-vis *Amavata*

Indra Pal^{1*}, Akanksha Tiwari² and N. P. Rai³

^{1,2,3}Faculty of Ayurveda, Institute of Medical Sciences, Banaras Hindu University, Varanasi, India

Abstract

Rheumatoid arthritis (RA) in *Ayurveda* can be correlated with *amavata*, a disease of multiple joint pain and swelling. The main pathogenic factor in this disease is *ama*, which is formed due to gastro-intestinal disturbance. When this *ama* gets seat of joints it causes *amavata*. In rheumatoid arthritis some inflammatory mediators and antibodies appear in blood, which are identified as diagnostic as well as prognostic marker like rheumatoid factor (RF), C-reactive protein (CRP), erythrocyte sediment rate (ESR), anti-cyclic citrullinated phosphate antibody (anti-CCPab). For these clinical trials twenty six patients of RA were selected from *kayachikitsa* OPD and IPD, Sir Sundar Lal Hospital BHU, Varanasi, India to study the effect of trial drug *Amavatari rasa* on these inflammatory mediators. Drug was proved to be effective in lowering the titre of these mediators and symptoms of RA were also improved.

Keywords

Rheumatoid Arthritis, Amavata, Ama, Anti-CCPab, Amavatari ras



Greentree Group

Received 16/10/15 Accepted 31/10/15 Published 10/11/15



INTRODUCTION

Ayurveda— an eternal science of healthy living treasures deals with physical, psychological and spiritual well-being of the human beings and covers all the aspect of human life. Changing concept of inclusive health care and growing acceptance of medical pluralism world over, the relevance and scope of *Ayurveda* is gaining recognition. In this regard integrative practice of medicine and medical pluralism has now become a ground reality and a need of the day. Only *Ayurveda* has the resources for curative and preventive principles of all types of today's life style born disease in our physical world. *Amavata* is a disease involving multiple joints. According to *Ayurveda* it is the disease of gastro-intestinal origin. Unwholesome food and lifestyle practices give rise to formation of *ama*^{1, 2} which is the main pathogenic factor in disease. *Amavata* has closely resemblance with RA. Also it has been found that in the patient of *amavata* the inflammatory mediators (which are raised in rheumatoid arthritis) become elevated³. *Ayurveda* has clearly conceived that all disease in the body is due to malfunctioning of digestive fire (*mandagni*) from gross to subtle level⁴

. This may lead to formation of endogenous toxic and reactive species which is depicted as *ama*. This form of *ama* generates series of inflammatory events in the body including synovial joints. However modern science explains it as genetic and auto-immune affection. There are some inflammatory mediators and auto-antibodies which explain prognosis of the disease, like CRP, ESR, RF and anti-CCPab. Some of these mediators like RF and anti-CCPab are used as diagnostic and prognostic marker too. *Ayurveda* texts of medieval period like *Chakradutta* and *Bhaishajyaratnavali*⁵ has described treatment principle and many formulations in various dosage forms. The principle aim of *ayurvedic* management is to improve status of digestive fire and thus checking *ama* formation. The drug used for this study *Amavatari Rasa* with the reference of *Bhaishajya ratnavali Amavata chikitsa Adhyaya*, which fulfills *deepana*, *pachana* and *anulomana* like properties with its special combination of herbo-mineral ingredients

MATERIALS AND METHODS

The patients were selected after their fulfilment of diagnostic criteria of *amavata*

(RA). Patients were thoroughly examined and questioned on both subjective and objective parameters.

Selection of Drug

Amavatari Rasa is one of the well known therapeutic preparations described in *Bhaishajya Ratnawali*⁶.

Dose of medicine :
500mg 1 BD in empty stomach.

Anupana :
Lukewarm water.

Selection of Cases:

A total of 60 patients of *Amavata* were randomly selected for the present study, from the Kayachikitsa OPD and IPD of Sir Sunder Lal Hospital, Institute of Medical Sciences, Banaras Hindu University, Varanasi. The case selection was random regardless of age, sex, occupation and socio-economic conditions. Both acute and chronic phase of *Amavata* patients were selected for the study, following the criteria of the diagnosis of rheumatoid arthritis in Modern Medicine⁷ and the clinical features of *Amavata* described in *Madhava Nidana*⁷.

Inclusion Criteria

1. Diagnosed cases of *Amavata* and Rheumatoid Arthritis

2. Age >15 years but less than 60 years
3. Seropositive and seronegative both cases were included in present study.
4. Patient willing to participate in the above trial

Exclusion Criteria

1. The patients having severe degree of deformities.
2. The patient having severe ankylosed joints
3. Patient suffering from DM, HTN, Tuberculosis, Asthma and other diseases
4. Non willing patients.

Calculation of Data: Mean and S.D. of investigations at different follow ups were calculated for all the groups. Paired t-test was used to see the effect of drugs from base line to different follow up in quantitative variable.

Investigation:

All patients were allowed for the following blood investigation- haemoglobin, total leucocyte count, blood sugar, liver function test, renal function test, anti-streptolysine-O titre (to exclude rheumatic disease), HLA B-27 and ANA to exclude other autoimmune disease. Only patients having normal levels were included in the study. CRP, ESR, RF, anti-CCPab were done before initiation of

treatment and after completion of the therapy.

RESULTS

All registered patients were allowed to take 500mg of tablet twice daily. There was significant relief in symptoms of RA along with marked improvement in blood titre of biochemical mediators as shown in the table number 1.

DISCUSSION

As shown in the observation table there is significant improvement in CRP, RF and anti-CCPab values. Mean decrease in CRP was 1.07 being significant ($p < 0.05$) likewise 10.23, 9.11 and 13.46 in ESR, RF and anti-CCP ab respectively also being significant. So in this study *amavatari ras* has been proved to be a good remedy for RA (*amavata*).

Table 1: Changes in the Levels of Inflammatory

	Mean \pm SD	Mean \pm SD	Within the group comparison Paired t-test
	BT	AT	
CRP	2.11 \pm 1.36	1.04 \pm 0.92	1.07+0.81 t=6.79p<0.001
Anti CCP	38.88 \pm 13.18	25.42 \pm 6.87	13.46 \pm 9.93 t=6.91p<0.001
ESR	30.92 \pm 8.65	20.69 \pm 4.22	10.23 \pm 7.12t = 7.32p<0.001
RA Factor	30.00+6.70	20.88+4.00	9.115+6.92 t=6.713 p<0.001

PROBABLE MODE OF ACTION OF AMAVATARI RASA

Based on the Pharmacological action:

Amavatari rasa has its unique action on *Amavata* based on following properties. Ingredients are composed of herbo – mineral drugs like *Triphala*, *Chitraka*, *Guggulu*, *Eranda*, *Parada* and *Gandhaka* in the form of *Kajjali*. Concept of *Ayurveda* to treat the *Amavata* is basically on normalizing the

agni through *ama pachana dravyas*, which performs the *deepana* and *pachana* actions. Simultaneously a compound which significantly controls and eliminates *prakupita vata dosha* by its *vatanulomana* property is also balanced in *Amavatari rasa* preparation. Therefore a successful herbo-mineral compound balance with all ingredients can be analyzed as follows- *Parada and Gandhaka* in the form of *kajjali*



acts as *deepaka*, *pachaka* and also *rasayana* along with *anulomana* property, followed by *triphala* with its *anulomana* property, where *Chitraka* is an excellent *deepaka* and *pachaka*, *Guggulu* acts as *vatahara*, *Eranda* acts as *Amavatahara* drugs. *Triphala*, which are taken in equal quantity, has *vatanulomana* property. Here *Amalaki* acts as *balya* and *rasayana* and balances the *kashaya guna of haritaki* and *vibheetaki*. *Chitraka* is used extensively for its *deepana* and *pachana* properties. *Guggulu* is a drug of choice in *Amavata* with its *Vatahara* property, therefore regulates the pain. *Amalaki*, *gandhaka* and *parada* have an excellent action as *rasayana* which prevents the degeneration of the tissues. *Eranda bhavana*-*Eranda* has been highlighted as *Amavatahara* due to its *Amapachana* property as well as *Sara guna* which attributes to *Vatanulomana* property which significantly acts on pain in joints. Garlic which is used for *shodhana of parada* possess anti-inflammatory property. It is noticed by the practicing physicians that the garlic has positive impact on heart disease treatment. *Anulomana* properties of *triphala*, *gandhaka* and particularly of *eranda* help in keeping the normal physiological function

of *annavaha srotas* and also help in maintaining the *koshtagni*. Thus the combination of contents of '*Amavatari rasa*' has a very good role in management of the disease *Amavata*.

CONCLUSION

Rheumatoid arthritis is an auto-immune and inflammatory disorder with serious systemic complications. In spite of potent anti-inflammatory agents and powerful immunosuppressive agents its prognosis is not good, as there are so many side effects as well. *Ayurvedic* system of medicine with so many effective herbal and herbo-mineral formulations has good hope because there is not any side effect of these drugs if used judiciously. Above clinical trial has been proved to be a good remedy for rheumatoid arthritis and also there was not any unwanted side effects as the study suggests. So *amavatari ras* has been proved to be a good herbo-mineral drug with a better prognosis.



REFERENCES

1. Agnivesha. Trividhukshiyavimana. In: ShastriRD, Upadhyaya YN, Pandey GS, Gupta BD, Mishra Brahmashankara, editors. CharakaSamhita (Vimanasthana). Varanasi: Chaukhambha Bharati Academy; 2005. 687-88.
2. Agnivesha. Grahanichikitsadhyaya. In: ShastriRD, Upadhyaya YN, Pandey GS, Gupta BD, Mishra Brahmashankara, editors. CharakaSamhita (chikitsasthana). Varanasi:Chaukhambha Bharati Academy; 2005. 460.
3. Amit Kr. Dixit, Ranjit Kr. Dey, Ashok Kr. Panda,Achintya Mitra, Jayram Hazra. Biochemical andserological profiling of Sandhi Shoola(arthralgia) patients of Ayurveda Hospital. Int.J. Res. Ayurveda Pharm. 2013; 4(2): 141-44.
4. Vagbhata. Udaranidana. In: Gupta Atridev,editor. Astanga Hridaya (Nidanasthana).Varanasi: Choukhambha Sanskrit Series; 1970.263.
5. Sen GD. Amavatadhikara. In: Shastri Aswini VM,Commentator. Bhaishajyaratnavali.Varanasi: Krishna Das Academy; 2008. 478-493
- 6:-Bhaishajya ratnawali,Govind Das sen with vidhytini Hindi commntry by Ambika Data Shastri Amavat chikitsa(29/71-72) P:-
7. Ankoor Shah, E.William St.Clair. RheumatoidArthritis. In: Longo L. Dan, Fauci S. Anthony, Kasper L. Dennis, Hauser L. Stephen, JamesonLarry J., Loscalzo Joseph, editors. Harrison's Principles of Internal Medicine2. 18thedition.New Delhi: Mc Graw Hill Medical; 2012. 2745.
8. Madhavakara. Amavata Nidanam. In:Upadhyaya YN, editor. Madhava Nidanam 1. Varanasi: Chaukhambha Sanskrit Sanst