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## To Evaluate the Efficacy of a Herbal Compound and *VaitaranBasti* in the Management of *Amavata*

Madhu Prasad<sup>1\*</sup>, D.P. Gupta<sup>2</sup> and B.P. Sharma<sup>3</sup>

<sup>1-3</sup>Dept. of Kayachikitsa, Govt. Ayurvedic College, Guwahati, Assam, India

### ABSTRACT

Amavata is a chronic systemic inflammatory disease which involves all the big and small joints of the body. It is a disease which occurs due to *mandagni* or dearrangement of *agni/jatharagni* in the body. The clinical features of *Amavata* closely resemble that of rheumatoid arthritis and if not treated properly on time amavata can lead to permanent deformities of the joints. In India cases of *amavata* have surpassed diabetes mellitus. The present study consist of a herbal compound and *vaitaranvasti* in the management of *Amavata* as described by chakrapanidatta in his textbook chakradatta.

### KEYWORDS

*Amavata, Vaitaranvasti, Rheumatoid Arthritis*



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## INTRODUCTION

Amavata is a disorder in which the food does not get digested properly and *amaras* is formed<sup>1</sup>. This *amarasa* is then circulated in the whole body by vitiated *vayu* and then it gets lodged in specific parts and produces joint stiffness, redness, pain, restriction of movement. In Ayurveda *madhavkara* was the first scholar to coin the word “*Amavata*” and gave this disease an independent identity<sup>2</sup>. Distinct aetiopathogenesis, clinical presentation has been described by him where as Chakradattahas beautifully described the principle of management<sup>3</sup>.

Garrod (1876) for the first time recognized a lesion of joints with some of the features similar to rheumatism but different from gout. This pathological condition was termed as Rheumatoid Arthritis. Amavata can be correlated with the signs and symptoms of Rheumatoid arthritis.

In Ayurveda this disease has been described with a distinct aetiopathogenesis, clinical presentation and principles of management. Not only symptomatic relief but much emphasis has been laid down on treating the basic cause of the disease. Moreover drugs in Ayurveda have no or minimum side effects and so can be used for a longer period.

In the present research *shigru*<sup>[4]</sup> (*Moringaoliefera*) which has been mentioned in *Swedopag*, *Kreemighna*, *Shirovirechanopag*, *Katukaskandh*, *Haritvarga* (Charak) has been added along with *Sunthi*<sup>5</sup>, *Guduchi*<sup>6</sup> and *Rasna*<sup>7</sup>. The effect of the compound drug has been evaluated along with *vaitaranbasti*<sup>8</sup> consisting of cows urine, tamarind, jaggery, *saindhavlan* and til oil<sup>9</sup>. The components of the trial drug possess *Kapha-Vatahara*, *Deepana*, *Pachana*, *Amapachana*, *Shulaghna*, *Shothahara*, *Rasayan* and *Vrishya* properties.

## 1. AIMS AND OBJECTIVES

The main and objectives of the present study are as follows –

- ❖ A Clinical, literary and conceptual study of *Amavata* in terms of Rheumatoid Arthritis.
- ❖ To assess the efficacy of a herbal compound and *VaitaranaVasti* in Rheumatoid Arthritis.



## 2. MATERIALS AND METHODS

**Study design:**

**Diagnostic Criteria:** The diagnosis of the patients enrolled in the study was



done on the basis of criteria jointly fixed by American College of Rheumatology (ACR) and the European League against Rheumatism (EULAR) supported by investigations and signs and symptoms of *Amavata* as given by MadhavNidana.

**Selection of cases:** A total number of 60 patients were randomly selected for the study from O.P.D and I.P.D of Kayachikitsa, Govt. Ayurvedic College and Hospital, Guwahati-14, Assam. The cases were selected randomly regardless of their age, sex, socio-economic considerations etc. but fully satisfying the criteria of the diagnosis and the clinical features of *Amavata* as described in MadhavaNidana.

**(A) Inclusion criteria:**

- (i) Clinical history
- (ii) Examination of patients according to Ayurvedic & Modern methodology
- (iii) Laboratory investigations
  - ESR
  - R A Factor
  - ASO Titre
  - CRP(C-reactive protein)
  - Anti-CCP

**(B) Exclusion criteria:**

- (i) Age below 10 years and above 70 years.
- (ii) Hypertensive.
- (iii) The patients having long standing complications involving Heart, Lung, kidney etc.
- (iv) The patients showing complications associated with systemic diseases due to adverse effect of NSAIDs.
- (v) Pregnant Lady.
- (vi) AIDS
- (vii) Nephrotic Syndrome
- (viii) Malignancy

**2. Plan of the study:**

The selected patients were interviewed along with their attendants to obtain detailed information about the patient as well as the disease and other different datas viz.

- i) Demographic profile
- ii) Clinical profile of the patients

Then all the patients were subjected to go through physical examination and certain laboratory tests like – Blood for Hb, T.L.C, D.L.C, E.S.R, R.F titre, C.R.P, Anti CCP, ASO Titre, etc.

**i) Demographic Profile:**



Under the heading of demographic profile data are collected for certain studies which includes – patient's name, age, sex, religion, occupation, socio-economic status, habits (diet) etc.

## ii) Clinical Profile:

Under the segment of clinical profile data are collected for the study of the following factors-

- a. Chief complaints with total duration of the illness.
- b. Onset of the disease
- c. Assessment of inflammatory conditions of the joints
- d. Triggering factors like –
  - Relation of pain with weather
  - Relation of pain with work
  - Relation of pain with diet
  - Relation of pain with circadian cycle
  - Previous drug history(if any)

## OBSERVATION & RESULTS

### DEMOGRAPHIC PROFILE:

**Sex**-Maximum number of patients were female i.e., 40 (66.6%) and males were 20 (33.3%).

**Age**- maximum number of patients were reported between 41-50 years (33.3%)

and followed by 51-60 years (23.3%) of age group. 10 (16.6%) patients are between the age group of 61-70 years, 9(15%) between the age group of 31-40 years and 7(11.6%) patient was found to be present within the age group of 21-30 years.

**Religion**-The number of Hindu patients were more i.e., 40 (66.6%) and Muslim 20 i.e., (33.3%).

**Occupation**-Majority of the patients registered for the study were housewives i.e., 30 in number (50%) followed by buissnessman (18.3%). The businessman and farmer that exhibited incidence were 10 in number i.e., (16.67%).

**Socio-economic status**- Maximum number of patients belonged to the middle class i.e., 40 (66.6%) patients followed by lower class i.e., 15 (25%) and higher class i.e., 5 (8.3%).

**Habitat** -Maximum no. of patients belong to urban area i.e., 40 (66.6%) followed by rural i.e., 20 (33.33%).

**Addiction** - Out of 60 patients 18 (30%) were addicted to Tea, 14 (23%) to Betelnut, 12 (20%) did not have any addiction,9(15%) to alcohol and



7(11.6%) were found to be addicted to Smoking.

#### CLINICAL PROFILE:

- Duration of illness- out of 60 patients of Amavata, 22 patients i.e. (36.67%) had duration of 1-3 years, 13 (21.67%) patient had duration of 0-1 years again 13(21.67%) had history of 3-5 years and the minimum number of patient i.e., 12(20%) had incidence history of >5 years duration.

- Total number of 27 (45%) patients were reported to feel more pain in winter season, followed by 14 i.e., (23.33%) patients felt more pain in the summer season and 10 (16.67%) patients were affected during rainy season and the rest 9 (15%) of patient were not affected due to any season

- In the present study, 20 (33.33%) patients were found to have continuous pain irrespectively, while 19 (31.67%) patients have more aggravation in the night, followed by 11 i.e., (18.33%) patients during evening and 10 i.e., (16.67%) patients complained of aggravation during morning hours.

- Regarding the relation of pain with work in 60 patients of Amavata, 31

i.e., (51.67%) of patient experienced more pain during rest, followed by 19(31.66%) has no relation with work, while 10 i.e., (16.67%) experienced during work.

- The study of drug history shows that 17 (28.33%) of the patients are coming for treatment without having NSAIDS and DMARDS while rest 43 (71.67%) have taken NSAIDS and DMARDS.

- A total of 20(46.51%) patients were found to be taking Prednisolone, 15(34.88%) were found taking Methotrexate, Patients taking Betamethasone were 7(16.27%) and 1(2.32%) of patients were found of having Benz. Penicilline.

- The disease has been found to be more common in non-vegetarian group i.e., 58 number of patients (96.67%) while only 2 patient (3.33%) was found to be vegetarian.

- From the 60 patients taken, 5(8.33%) were shown to have a family history of RA in their family and the rest 55(91.67%) patients did not have any short of family history signifying RA.



- Among the 60 patients taken 27(45%) of them have irregular bowel, 18(30%) of them were constipated and the rest 15(25%) patients were having normal bowel.

- In the study, 27 (45%) patients were found to have disturbed sleep while 33 (55%) patients were found to have normal sleep.

### **Incidence of Ayurvedic symptomatology in 60 patients of Amavata (RA)-**

The patient were registered having these symptoms-

<i>sandhisarujotha</i>	60	(100%),
<i>agnimandya</i>	41	(68.33%),
<i>vrischikdangavatvedana</i>	37	(61.67%),
<i>praseka</i>	40	(66.67%),
<i>Aruchi</i>	38	(63.33%),
<i>Gaurav</i>	40	(66.66%),
<i>Mukhahanivairasya</i>	10	(16.66%),
<i>utsahhani</i>	52	(86.67%),
<i>Kukshikathinta</i>	7	(11.67%),
<i>udarsula</i>	8	(13.33%),
<i>Nidraviparjaya</i>	27	(45%),
<i>Trishna</i>	6	(10%),
<i>Daha</i>	45	(75%),
<i>Hridgraha</i>	8	(13.33%),
<i>Kosthabadhata</i>	18	(30%),
<i>kwara</i>	42	(70%),
<i>SparshAsahatwa</i>	50	(83.33%),
<i>vedana</i>	60	(100%)

and *Hasta Stabdhatata* 60 (100%) as the characteristic presenting features.

### **RESULT OF THERAPEUTIC TRIAL**

- **PAIN-** Before treatment, mean of pain for Group A was  $2.7 \pm 0.48$  which after 60 days of treatment reduced mean pain of Group A to  $0.7 \pm 0.48$ . The difference between the 2 mean (BT-AT) after calculating was  $2.00 \pm 0.67$ . Before treatment the mean pain of Group B was  $2.6 \pm 0.51$  which after 60 days of treatment was  $1.7 \pm 0.67$ . The difference between 2 mean (BT-AT) was  $0.90 \pm 0.57$ . The unpaired  $t = 3.97$  @df=58 which is  $p < 0.001$ . So, the result is highly significant.

- **SWELLING:** Before treatment, mean of swelling for Group A was  $2.7 \pm 0.48$  which after 60 days of treatment reduced mean swelling of Group A to  $0.8 \pm 0.63$ . The difference between the 2 mean (BT-AT) after calculating was  $1.90 \pm 0.74$ . Before treatment the mean swelling of Group B was  $2.6 \pm 0.51$  which after 60 days of treatment was  $1.3 \pm 0.67$ . The difference between two mean (BT-AT) was  $1.30 \pm 0.48$ . The unpaired  $t = 2.15$  @df=58 which is  $p < 0.05$ . So, the result is significant.

- **TENDERNESS:** Before treatment mean of tenderness for Group A was  $2.2 \pm 0.63$  which after 60 days of treatment reduced mean of tenderness of Group A to  $0.6 \pm 0.51$ . The difference between the two means (BT-AT) after calculating



was  $1.60 \pm 0.70$ . Before treatment the mean tenderness of Group B was  $2.1 \pm 0.73$  which after 60 days of treatment was  $1.2 \pm 0.78$ . The difference between two mean (BT-AT) was  $0.90 \pm 0.57$ . The unpaired  $t = 2.15$  @df=58 which is  $p < 0.02$ . So, the result is significant.

- **STIFFNESS:** Before treatment mean of stiffness for Group A was  $2.44 \pm 0.72$  which after 60 days of treatment reduced mean stiffness of Group A to  $0.55 \pm 0.52$ . The difference between the two mean (BT-AT) after calculating was  $1.60 \pm 0.70$ . Before treatment the mean stiffness of Group B was  $2.11 \pm 0.78$  which after 60 days of treatment was  $1.2 \pm 0.78$ . The difference between two mean (BT-AT) was  $0.90 \pm 0.57$ . The unpaired  $t = 2.459$  @df=58 which is  $p < 0.02$ . So, the result is significant.

- **ESR-** Before treatment mean of ESR for Group A was  $2.2 \pm 0.77$  which after 60 days of treatment reduced mean Of ESR of Group A to  $1.80 \pm 0.68$ . The difference between the 2 mean (BT-AT) after calculating was  $1.80 \pm 0.68$ . Before treatment the mean ESR of Group B was  $2.2 \pm 0.77$  which after 60 days of treatment was  $1.26 \pm 0.59$ . The difference between two mean (BT-AT) was  $0.93 \pm 0.70$ . The unpaired  $t = 3.43$  @df=58 which is  $p < 0.02$ . So, the result is significant.

## DISCUSSION

In Ayurveda many approaches based on Chakrapanis line of treatment are in practice to treat Amavata, but still it is a challenging disease to all physicians and all therapies. The treatment principles of Ayurveda show a great hope because of the sound understanding of the root cause of the disease.. All the components of the trial drug were selected based on the following-

1. Most of the drugs e.g *Rasna*, *Guduchi*, *Sunthi* and *Shigru* are mentioned in Ayurvedic texts for the treatment of syndrome and disorders described similar to rheumatism and arthritis known as *Vatavyadhi*, *Amavata*, *Vatarakta* etc.

2. These drugs have been popularly being used by Ayurvedic physicians for the treatment of rheumatism and arthritis.

The herbal compound consists of 4 drugs they are *guduchi*, *rasna*, *sunthi* and *sigru*.

The trial drug was prepared in the form of tablets 500mg each. A total of three follow ups—at an interval of 20 days each was done.

➤ All the drugs have *ushnavirya*. As there is involvement of *Ama* and vitiated *vata* in *Amavata*, these drugs will act as good *Amapachak*.

➤ *Guduchi* is *rasayan* and has *jwaraghna*, *dahaprashman*, *kaphaghna* and *balya* properties.





➤ *Rasna* is *rasayan* and has *sothahara*, *amapachana*, *vedanasthapana*, *vatahara*, *soolaprashmana*, *jwaraghna*, *raktasodhaka* and *rechan* properties.

➤ *Sunthi* is the best *amapachak* therefore it can digest *Ama* present in the body. Because of its *teekshna* property it shows its effectiveness in *srotorodha*.

➤ *Shigrui* is the best *krimighna*, *swedopag*, *shirovirechaniye* drug. Leaves and bark of shigru are used to reduce pain.

#### MODE OF ACTION OF THE HERBAL COMPOUND:

The herbal compound consists of *rasna*, *guduchi*, *shigru* and *sunthi*. All the drugs here are *ushnavirya*. As there is involvement of *Ama* and vitiated *vata* in *Amavata* these drugs will act as good *Amapachak*. All are *kaphavataashamak* therefore will act as *Amavataghna*. All the trial drugs have *deepan*, *pachan*, *sothaghna* and *shulaghna* properties. Due to *pachan* and *deepan* action it digests the *Ama* present in the body and prevents further formation of *Ama* in the body. *Sunthi* is the best *Amapachak*, thus it can digest any form of *Ama* in the body and thus removes *srotorodh*. *Rasna* and *guduchi* are *arerasayan* and have *sothahara*, *vedanasthapan*, *mridurechan* and *anuloman* properties too. They also have *raktashodhak* property by which they act as antioxidant by

getting rid of toxic minerals by stimulating blood circulation and mineral balance.

#### Vaitaranabasti

Chakradatta while mentioning the treatment of *Amavata*, mentioned *basti* as a line of treatment and has specially mentioned about *vaitaranabasti*. *Basti* is best for vatic disorders and itself is said as half treatment.

*Vaitaranabasti* consists of *Gomutra*, *Imli*, *Gur*, *Til oil* and *Saindhavlavana*. This *basti* is given as *yoga basti* with *til oil* as *anuvasanbasti*. *Gomutra* is *agnideepak* so is *Amapachak* and has *teekshna* qualities so is *srotoshodhak*. It is also *vatakaphashamak*. It has antioxidant properties so it can prevent the damage to DNA caused by the environmental stress. It has been found to be a very good immune enhancer.

*Gur* is *snigdha* and *madhura* so it can counteract the irritating properties of *Gomutra*. It is *agnijanak*. It has antibacterial properties due to its acidic nature and enzymatically produce hydrogen peroxide. As it is hygroscopic (tend to absorb), it speeds up healing, growth of healing tissue and dries it up.

*Til oil* is *vatakaphashamak* in nature so it does not increase *Ama* though it is *snigdha*. *Til oil* by its *vyavayi*, *vikasi* and *sukshmaguna* helps the *bastidrabya* to get



absorbed into the cellular level. Also some of the lipids and lipid soluble substances directly reach the cytoplasm through the cell membrane. It is also having anti oxidant effect. Its antioxidant effect is found to be more than vit.E.

*Saindhavlan* used in *basti* is *deepan, laghu and tridosahara*. It is useful in regulating acid alkaline balance maintaining osmosis. It removes excess acidity, generates hydroelectric energies in the cell and for nerve cells communication. It also helps the *basti* to reach microcellular level as sodium chloride is readily absorbed from the colon.,

The medical parameters for RA during the whole study have been observed and recorded as per modern pathological guidelines and clinical findings. Laboratorial quantitative estimation of rheumatoid factor, Anti-ccpwere done in only few patients and because of this small sample number no statistical evaluation was possible. The study under report is a time bound short term trial and has many limitations. Hence it is suggested that extensive as well as experimental have to be done to evaluate the definite role of the trial drug in managing Rheumatoid Arthritis in the days to come.

In the present work in the part of clinical study under the heading of ‘Observation and Results’ presents demographic and clinical study in the 60 registered patients of Amavatavis- a- vis rheumatoid arthritis. This study also includes one of its major components, the observations for anti-inflammatory efficacy of the trial drug and role of *vaitaranbasti* in the above mentioned patients.

## CONCLUSION

- ❑ Approximately 0.8% of the population is affected by Rheumatoid Arthritis & Indian data suggests prevalence to be more than that of DM in India.
- ❑ RA is a form of chronic immunoinflammatory systemic disease which can be correlated to Amavata in Ayurvedic parlance.
- ❑ The herbal compound along with *vaitaranbasti* showed its effectiveness in controlling, pain, swelling, stiffness, tenderness & ESR.
- ❑ During the course of treatment no any side effects or adverse reaction were noticed.
- ❑ In the study it is found that *vaitaranbasti* along with the herbal compound shows very good result in comparison to the herbal compound alone.

Basti as a whole might act by stimulating the receptors and thus activates the ENS in the GI tract which automatically stimulates the CNS which is the controller of all the neurological functions of the body.

### **OVERALL EFFECT OF THE THERAPY**

In future studies large no. of patients should be taken & follow up study should be undertaken for longer period. There should also be a further study regarding the role of *Rasna*, *Sigru*, *Sunthi* & *Guduchi* herbal compound and *vaitaranvasti* in decreasing the abnormal values as of Anti-CCP titre. In this way it can be a ray of hope for the patients fighting with this crippling disease.

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