To Evaluate the Efficacy of a Herbal Compound and Vaitaran Basti in the Management of Amavata

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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 agniljatharagni 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
INTRODUCTION
Amavata is a disorder in which the food does not get digested properly and amaras is formed\(^1\). 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 madhvakara was the first scholar to coin the word “Amavata” and gave this disease an independent identity\(^2\). Distinct aetiopathogenesis, clinical presentation has been described by him where as Chakradattahas beautifully described the principle of management\(^3\).

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 Rhematoid 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\(^4\) (Moringaolefera) which has been mentioned in Swedopag, Kreemighna, Shirovirechanopag, Katukaskandh, Haritvarga (Charak) has been added along with Sunthi\(^5\), Guduchi\(^6\) and Rasna\(^7\). The effect of the compound drug has been evaluated along with vaitaranbasti\(^8\) consisting of cows urine, tamarind, jaggery, saindhavlavan and til oil\(^9\). 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-
sandhisarujasotha 60 (100%), agnimandya 41 (68.33%), vrischikdangavatvedana 37 (61.67%), praseka 40 (66.67%), Aruchi 38 (63.33%), Gaurav 40 (66.66%), Mukhahanivairasya 10 (16.66%), utsahhani 52 (86.67%), Kukshikathinta 7 (11.67%), udarsula 8(13.33%), Nidraviparjaya 27 (45%), Krishna 6 (10%), Daha 45 (75%), Hridgraha 8 (13.33%), Kosthabadhata 18 (30%), jwara 42 (70%), SparshAsahatwa 50 (83.33%), vedana 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±0.48 which after 60 days of treatment reduced mean pain of Group A to 0.7±0.48. The difference between the 2 mean (BT-AT) after calculating was 2.00±0.67.Before treatment the mean pain of Group B was 2.6±0.51 which after 60 days of treatment was 1.7±0.67. The difference between 2 mean (BT-AT) was 0.90±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±0.48 which after 60 days of treatment reduced mean swelling of Group A to 0.8±0.63. The difference between the 2 mean (BT-AT) after calculating was 1.90±0.74.Before treatment the mean swelling of Group B was 2.6±0.51 which after 60 days of treatment was 1.3±0.67. The difference between two mean (BT-AT) was 1.30±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±0.63 which after 60 days of treatment reduced mean of tenderness of Group A to 0.6±0.51. The difference between the two means (BT-AT) after calculating
was 1.60±0.70. Before treatment the mean tenderness of Group B was 2.1±0.73 which after 60 days of treatment was 1.2±0.78. The difference between two mean (BT-AT) was 0.90±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±0.72 which after 60 days of treatment reduced mean stiffness of Group A to 0.55±0.52. The difference between the two mean (BT-AT) after calculating was 1.60±0.70. Before treatment the mean stiffness of Group B was 2.11±0.78 which after 60 days of treatment was 1.2±0.78. The difference between two mean (BT-AT) was 0.90±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±0.77 which after 60 days of treatment reduced mean of ESR of Group A to 1.80±0.68. The difference between the 2 mean (BT-AT) after calculating was 1.80±0.68. Before treatment the mean ESR of Group B was 2.2±0.77 which after 60 days of treatment was 1.26±0.59. The difference between two mean (BT-AT) was 0.93±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, vedanasthapan, vatahara, soolaprasrman, 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 srootrodha.

Shigru 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 kaphavatashamak 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 srootrodh. 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 vaitaranbasti. Basti is best for vatic disorders and itself is said as half treatment. Vaitaranbasti 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 thebastidrabya 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.

*Saindhavlavan* used in *basti* is *deepan, laghu and tridoshahara*. 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. Laboratorical quantitative estimation of rheumatoid factor, Anti-ccp were 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 immune-inflammatory 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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