Clinical Research

Management of Amavata with ‘Amrita Ghrita’: A clinical study

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Abstract

Amavata is a disease caused due to the vitiation or aggravation of Vayu associated with Ama. Viti- ated Vayu circulates the Ama all over the body through Dhamanies, takes shelter in the Shleshma Sthana (Anashaya, Sandhi, etc.), producing symptoms such as stiffness, swelling, and tenderness in small and big joints, making a person lame. The symptoms of Amavata are identical to rheumatism, which include rheumatoid arthritis and rheumatic fever. It is observed that rheumatism is an autoimmune disorder, which is among the collagen disorders having strong and significant parlance with Amavata. Various drug trials were already carried out on Amavata, yet there is a lacuna in the management of Amavata. Hence, in the present clinical study, 28 patients were selected and kept on ‘Amrita Ghrita’. All the patients were investigated for complete blood count (CBC), rheumatoid arthritis (RA) titer, Antistreptolysin O (ASO) titer, C-reactive protein (CRP) titer, platelet count, urine routine, and microscopic, before and after treatment. The collected data was distributed according to age, sex, and prakruti, and a t-test was applied for the clinical assessment of the subjective and objective parameters of ‘Amrita Ghrita’, and it has shown significant reduction in the positivity of the RA titer (t > 5.09, at the 0.001% level), ASO titer (t > 4.08, at the 0.001% level), and CRP titer (t > 4.82, at the 0.001% level), and weight gain (t > 5.12, at the 0.001% level), as also an increase in Hb% (t > 9.22, at the 0.001% level), and platelet count (t > 5.90, at the 0.001% level), and decrease in ESR (t > 9.70, at the 0.001% level).

Key words: Amavata, Ama, Rheumatism, Amrita, Tinospora cordifolia, Ghee

Introduction

Amavata is one of the crippling diseases claiming the maximum loss of human power. It is not only a disorder of the locomotor system, but is also a systemic disease and is named after its chief pathogenic constituents, which are, Ama and Vata.

The main causative factor, Ama, is caused due to malfunctioning of the digestive and metabolic mechanisms. The disease is initiated by the consumption of Viruddha Ahara and simultaneous indulgences in Viruddha Ahara in the pre-existence of Mandagni. Although Ama and Vata are chiefly pathogenic factors, Kapha and Pitta are also invariably involved in its Samprapti. Amavata being contradictory in their characteristics, there is difficulty in planning the line of treatment. Derangement of the Kapha dosha, especially Shleshak kapha in the Amavata, which produces joint pain and swelling with tenderness, can be correlated with rheumatoid arthritis and derangement of the Pitta dosha along with Ama taking shelter in the Avalambak Kapha sthana, which can be correlated with rheumatic fever because of the cardiac involvement, due to repeated fever, resulting in rheumatic heart diseases.

Several dreadful diseases are prevalent in medical science. The scope for therapeutic measures is limited even after extreme advancement of the modern bio-medical science. The rheumatological disorder is a group of diseases that has no specific medical management in any type of therapeutics. Amavata is a particular type of disease that is mentioned in Ayurveda since the period of Madhavkar, under the category of Vata – Kapha disorder. In spite of the description of multiple drug therapy on Amavata in different classics of Ayurveda, potential and durable results are not found due to non-removal of the basic cause. Hence, special emphasis should be put into searching for a standard and suitable drug for Amavata.

Although Snehaapana is mentioned for the management of Amavata by our Acharyas, practically it has been observed that Snehaapana is not prescribed for Amavata patients because of Ama. However, presently it is observed that some physicians are administering Snehaapana (Ghrita) for Amavata patients in Niramarvastha and getting significant results.
It is stated to be one of the autoimmune disorders; hence it is observed that the maximum number of Amavata patients is emaciated and underweight. Acharya Chakradatta has mentioned Amrita Ghrita for Snehapana in Amavata patients.\(^{[6]}\) Both Amrita\(^{[7]}\) and Ghrita are immunomodulatory drugs; hence in the present study, Amrita Ghrita has been selected for autoimmune diseases like Amavata.

### Aims and Objectives

1. To assess the clinical results of ‘Amrita Ghrita’ in Amavata patients.
2. To assess the Rasayana effects of ‘Amrita Ghrita’.

### Materials and Methods

#### Source of data

Patients who were attending the OPD and IPD of the Kaya-Chikitsa Department of R. T. Ayurveda hospital, Akola, and fulfilling the criteria were selected for this study.

#### Inclusion criteria

1. Patients having signs and symptoms of Amavata were considered for the present study.
2. Patients who had satisfied the criteria laid down by the American Rheumatism Association were selected and registered for detailed investigation and follow-up.
3. The clinical history of the patients was taken in a specially prepared proforma.

#### Exclusion criteria

The patients who had deformities were excluded from the study, for example, ulnar deviation, swan neck deformities, ankylosis of wrist and elbow, and so on.

Patients who had given a history of the diseases mentioned herewith were also omitted from the present study.

- a) Diabetes mellitus
- b) Pulmonary Tuberculosis
- c) Extensive blood loss
- d) Chronic alcoholism
- e) Hypertension
- f) Hemophilia

#### Study design

In the present study, after complete examination and investigation, 28 patients had been kept on Shunthi Siddha milk for one week, after which they were administered ‘Amrita Ghrita’ 15 g BD with milk.

Duration of treatment: 45 days.

Preparation of Amrita Ghrita: Before the preparation, Murchhana of Ghrita\(^{10}\) was done with Amalaki (Emblica officinalis), Bibhitaki (Terminalia bellirica), Haritaki (Terminalia chebula), Nagarmotha (Cyperus rotundus), Haridra (Curcuma longa), and Nimbu ras (Citrus media). Amrita Ghrita was prepared in our college pharmacy with the following ingredients\(^{[11]}\):

| Ingredients                      | Quantity         |
|----------------------------------|------------------|
| Ghrita (Murchhita)               | 10 kg            |
| Shunthi kalka (Zingiber officinale) | 1 kg 660 g       |
| Guduchi quath (Tinospora cordifolia) | 40 lit           |

### Criteria for assessment

After completion of therapy, before and after treatments, scores were assessed on the basis of the symptoms of Amavata were graded on a five point scale with scoring from 0 to 4. The objective parameters such as joint swelling, pain, tenderness, stiffness time, grip strength, foot pressure, goniometry test, and walking time were assessed before and after the treatment. Laboratory investigations such as Hemoglobin %, Total leucocyte count, differential count, erythrocyte sedimentation rate, rheumatoid arthritis titer, ASO titer, CRP titer, platelet count, and urine routine and microscopic examination were also carried out before and after treatment.

The obtained data, on the basis of the observation, were subjected to statistical analysis in terms of mean standard deviation and standard error, and the ‘t’ test conceded at a level of P > 0.05 (insignificant), P < 0.05 and P < 0.01 (significant), and P < 0.001 (highly significant) for the final results.

#### Criteria for assessment of the effect of therapy

Detailed clinical observations were done every week for the assessment of results and the final data has been divided into four groups.

- **Excellent:** The patients who had obtained complete or above 75% relief of signs and symptoms, that is, Shotha, Sparsha-ashtva, Jwara, Agnimandya, Alasya, Trishna, and so on, were included in this group. Laboratory investigations such as ESR, CRP, platelet count, negative RF titer, and ASO titer within normal range were also included in this group.

- **Good:** The patients who had obtained 50 to 75% relief of the above-mentioned signs and symptoms were considered in this group.

- **Fair:** The patients who had got 25 to 50% relief of signs and symptoms, and less than 50% reduction in their laboratory values were also considered in this group.

- **Poor:** The patients who had got less than 25% relief of signs and symptoms, and a laboratory test with no change, were included in this group.

### Observations and Results

The collected data has been distributed in the following tables.

From the Table 1, it can be observed that a maximum number of patients were in the age group of 11 – 50 years. The maximum number of patients were female (53.55%). Out of 28 patients of Amavata, most of the patients were laborers 10 (35.72%), followed by 09 (32.14%) farmers [Table 2]. Out of 28 patients of Amavata, 12 (42.86%) patients had a sudden onset and 11 (39.28%) patients had a gradual onset [Table 3]. The present clinical study reveals that the majority of the patients (57.14%) had Madamagni, whereas, 12 (42.86%) patients had Vishamagni [Table 4].

### Effects of therapy

Although 28 patients were selected for research trials; five patients left against medical advice, and hence, were not included in the final results. In the present study, all the...
patients had Sandhishool, Sandhishoth, Sandhigraha, and Sparsha-asahatva. After the treatment, 20 patients had complete improvement in Sandhishool, 22 patients got relief from Sandhishoth and Sandhigrisha, and Sparsha-asahatva was cured in all the patients [Table 5].

The effect on Sandhishotha shown in the Table 6 indicates that statistically highly significant relief was found in the right shoulder (55.56%), elbow (62.50%), wrist (55.17%), knee (70.17%), and ankle (63.02%), as also in the left shoulder (48.05%), elbow (57.02%), wrist (56.55%), knee (29.66%), and ankle (58.03%), whereas, it was significant in the right hip (54.55%) and left hip (74.06%).

The effect on Sandhigraha shown in the Table 7 indicates that statistically highly significant relief was found in the right shoulder (4.70%), elbow (4.09%), wrist (5.97%), knee (3.04%), and ankle (8.65%), as also in the left shoulder (5.54%), elbow (5.06%), wrist (7.70%), knee (1.21), and ankle (8.63%), and significant in the left elbow (5.06%), whereas, it was insignificant in the right hip (0.23%) and left hip (0.24%).

The effect on Sparsha-asahatva in the Table 9 indicates that statistically highly significant relief was found in the right shoulder (39.53%), elbow (44.55%), wrist (50.79%), knee (48.25%), and ankle (62.50%), as also in the left shoulder (61.49%), elbow (27.35%), wrist (46.43%), knee (55.71), and ankle (43.36%), whereas, it was significant in the right hip (27.59%) and left hip (36.84%).

The effect on Sparsha-asahatva in the Table 10 indicates that statistically highly significant relief was found in the grip strength (68.17%), foot pressure (82.22%), walking time (48.10%), and weight (3.02%).

The effect on the clinical assessments shown in the Table 11 indicates that statistically highly significant relief was found in the left hip (54.55%) and left knee (74.06%).

In the present study, excellent results were found in 43.48% patients, good results were observed in 34.78% patients, and fair results were found in 21.74% patients [Table 12].

In this clinical study, it was also observed that before treatment the RA titer was positive in 15 patients and after treatment it was negative in seven patients.

**Discussion**

‘Amrita Ghrita’ is composed of Guduchi and Shunthi processed in Ghrita. Shunthi due to its Katu Rasa and Ushna Virya; is well known for Vata-Shleshma Vibandhahara. Shunthi possesses the basic quality of Deepan and Pachan properties, which improve Jatharagni.[13] When Jatharagni is improved, it leads to the
formation of other Dhatus and checks the formation of Ama. By virtue of Ushana Veerya, it digests and absorbs the vitiated Ama by its Shoshana Karma. Scientifically, it has been proved that Shunthi possesses active principles of gingerol, dehydrozingerone, and gingerdione, and they are potent inhibitors of prostaglandin synthesis, indicating the mechanism of an anti-arthritic effect.[13] Guduchi possesses the qualities of Tikta, Kashaya Rasa, Madhur Vipak, and Ushana Veerya. Ghrita and Guduchi have the dual action of Vata Shamana and Bruhana, on the tissues, especially

| Table 6: Effect of the therapy on Sandhishoola in 23 patients |
|---------------------------------|
|                     | BT | AT |
| Mean  | % | d | S.D | S.E (M)± | t | P value |
| Right Shoulder | 2.7 | 1.2 | 55.56 | 1.5 | 0.72 | 0.15 | 10.67 | < 0.001 |
| Elbow | 2.56 | 0.96 | 62.50 | 1.6 | 0.84 | 0.17 | 8.5 | < 0.001 |
| Wrist | 2.9 | 1.3 | 55.17 | 1.6 | 0.92 | 0.19 | 8.77 | < 0.001 |
| Hip | 2.75 | 1.25 | 54.55 | 1.5 | 1.03 | 0.21 | 2.82 | < 0.01 |
| Knee | 2.95 | 0.88 | 70.17 | 2.07 | 0.87 | 0.18 | 11.16 | < 0.001 |
| Ankle | 2.65 | 0.98 | 63.02 | 1.67 | 0.82 | 0.17 | 11.37 | < 0.001 |

| Left Shoulder | 2.56 | 1.33 | 48.05 | 1.23 | 0.77 | 1.16 | 11.25 | < 0.001 |
| Elbow | 2.42 | 1.04 | 57.02 | 1.38 | 0.94 | 0.19 | 8.19 | < 0.001 |
| Wrist | 2.9 | 1.26 | 56.55 | 1.64 | 0.84 | 0.17 | 9.52 | < 0.001 |
| Hip | 2.66 | 0.69 | 74.06 | 1.97 | 0.94 | 0.19 | 2.42 | < 0.05 |
| Knee | 2.63 | 1.85 | 29.66 | 0.78 | 0.73 | 0.15 | 12.98 | < 0.001 |
| Ankle | 1.93 | 0.81 | 58.03 | 1.12 | 0.89 | 0.16 | 9.51 | < 0.001 |

| Table 7: Effect of the therapy on Sandhishotha in 23 patients |
|---------------------------------|
|                     | BT | AT |
| Mean  | % | d | S.D | S.E (M)± | t | P value |
| Right Shoulder | 34.25 | 32.64 | 4.70 | 1.61 | 1.4 | 0.29 | 5.65 | < 0.001 |
| Elbow | 23.2 | 22.25 | 4.09 | 0.95 | 1.55 | 0.32 | 3.94 | < 0.001 |
| Wrist | 15.9 | 14.95 | 5.97 | 1.01 | 1.48 | 0.3 | 4.14 | < 0.001 |
| Hip | 66.1 | 65.95 | 0.23 | 0.15 | 0.24 | 0.05 | 1.69 | > 0.05 |
| Knee | 33.25 | 32.24 | 5.54 | 1.91 | 1.6 | 0.33 | 5.05 | < 0.001 |
| Ankle | 24.9 | 22.75 | 8.63 | 2.15 | 1.78 | 0.37 | 5.42 | < 0.001 |

| Left Shoulder | 34.45 | 32.54 | 5.54 | 1.91 | 1.6 | 0.33 | 5.05 | < 0.001 |
| Elbow | 23.32 | 22.14 | 5.06 | 1.18 | 1.76 | 0.36 | 3.6 | < 0.01 |
| Wrist | 15.19 | 14.02 | 7.70 | 1.17 | 1.4 | 0.29 | 3.94 | < 0.001 |
| Hip | 66.15 | 65.04 | 0.24 | 0.16 | 0.4 | 0.08 | 1.99 | > 0.05 |
| Knee | 33.05 | 32.65 | 1.21 | 0.4 | 1.48 | 0.3 | 5.55 | < 0.001 |
| Ankle | 24.9 | 22.75 | 8.63 | 2.15 | 1.21 | 0.25 | 7.13 | < 0.001 |

| Table 8: Effect of the therapy on Sandhigraha in 23 patients |
|---------------------------------|
|                     | BT | AT |
| Mean  | % | d | S.D | S.E (M)± | t | P value |
| Right Shoulder | 2.31 | 1.54 | 33.33 | 0.77 | 0.82 | 0.17 | 6.06 | < 0.001 |
| Elbow | 2.65 | 1.42 | 46.42 | 1.23 | 0.79 | 0.16 | 6.01 | < 0.001 |
| Wrist | 2.54 | 1.25 | 50.79 | 1.29 | 0.67 | 0.13 | 8.69 | < 0.001 |
| Hip | 1.45 | 1.05 | 27.59 | 0.40 | 0.55 | 0.11 | 2.61 | < 0.05 |
| Knee | 2.86 | 1.48 | 48.25 | 1.38 | 0.66 | 0.13 | 11.33 | < 0.001 |
| Ankle | 2.56 | 0.96 | 62.50 | 1.60 | 0.58 | 0.12 | 12.72 | < 0.001 |

| Left Shoulder | 2.96 | 1.14 | 61.49 | 1.82 | 0.66 | 0.13 | 10.65 | < 0.001 |
| Elbow | 2.45 | 1.78 | 27.35 | 0.67 | 0.90 | 0.18 | 5.3 | < 0.001 |
| Wrist | 1.96 | 1.05 | 46.43 | 0.91 | 0.73 | 0.15 | 9.7 | < 0.001 |
| Hip | 1.52 | 0.96 | 36.84 | 0.56 | 0.55 | 0.11 | 2.61 | < 0.05 |
| Knee | 2.89 | 1.28 | 55.71 | 1.61 | 0.66 | 0.13 | 11.3 | < 0.001 |
| Ankle | 2.56 | 1.45 | 43.36 | 1.11 | 0.68 | 0.13 | 11.75 | < 0.001 |
Table 9: Effect of the therapy on \textit{Sparsha-ashta} in 23 patients

| \text{Sparsha-ashta} | \text{Mean} | \% | d | S.D | S.E (M) | t | P value |
|----------------------|-------------|----|---|-----|---------|---|---------|
| Right Shoulder       | 215         | 300| 39.53| 85 | 68.68   | 4.94| < 0.001 |
| Elbow                | 202         | 292| 44.55| 90 | 73.53   | 4.96| < 0.001 |
| Wrist                | 180         | 297| 65.00| 117| 69.23   | 8.91| < 0.001 |
| Hip                  | 290         | 300| 3.45 | 10 | 0.76    | 1.5| < 0.001 |
| Knee                 | 174         | 296| 70.11| 122| 8.5     | 9.85| < 0.001 |
| Ankle                | 133         | 298| 124.06| 165| 52.39   | 13.01| < 0.001 |
| Left Shoulder        | 220         | 294| 33.64| 74 | 75.96   | 5.32| < 0.001 |
| Elbow                | 209         | 288| 37.80| 79 | 75.96   | 8.23| < 0.001 |
| Wrist                | 186         | 296| 59.14| 110| 14.78   | 8.5| < 0.001 |
| Hip                  | 294         | 300| 2.04 | 6  | 39.22   | 2.12| < 0.05  |
| Knee                 | 153         | 283| 81.71| 130| 11.52   | 12.07| < 0.001 |

Table 10: Effect of the therapy on the clinical assessments in 23 patients of \textit{Amavata}

| Clinical assessments | Mean | % | d | S.D | S.E (M) | t | P value |
|----------------------|------|----|---|-----|---------|---|---------|
| Grip strength        | 2.934| 0.933| 68.17| 2.01 | 0.9     | 5.79| < 0.001 |
| Foot pressure        | 2.565| 0.456| 82.22| 2.109| 0.66    | 11.33| < 0.001 |
| Walking time         | 18.931| 9.826| 48.10| 9.105| 5.8     | 7.49| < 0.001 |
| Weight               | 46.931| 48.347| 3.02 | 1.416| 0.27    | 5.12| < 0.001 |

Table 11: Effect of the therapy on the hematological parameters in 23 patients of \textit{Amavata}

| Hematological parameters | Mean | % | d | S.D | S.E (M) | t | P value |
|--------------------------|------|----|---|-----|---------|---|---------|
| Hb%                      | 9.4  | 10.91| 16.06| 1.51 | 0.85    | 9.22| < 0.001 |
| TLC                      | 10600| 8940| 15.66| 1660| 416.26  | 4.83| < 0.001 |
| ESR                      | 61.71| 35.14| 43.06| 26.57| 13.16   | 9.7| < 0.001 |
| RA titer                 | 35.58| 25.62| 27.99| 9.96 | 9.8      | 5.09| < 0.001 |
| ASO titer                | 1123.08| 550| 51.03| 573.08| 106.45  | 4.08| < 0.001 |
| CRP titer                | 23.24| 8.61| 62.95| 14.63| 16.18   | 4.82| < 0.001 |
| Platelet count.          | 242692| 287762| 18.57| 45070| 36766.4 | 5.9| < 0.001 |

Table 12: Total effect of the therapy-wise distribution of 23 patients of \textit{Amavata}

| Effect of therapy | No. of patients | % of patients |
|-------------------|-----------------|---------------|
| Excellent         | 10              | 43.48         |
| Good              | 08              | 34.78         |
| Fair              | 05              | 21.74         |
| Poor              | 0               | 0             |

This indicates the regeneration property of \textit{Amrita Ghrita} in the body; hence, \textit{Ghrita} can be administered to persons who are suffering from degeneration of any tissue.

Hence, taking the above points into consideration, the \textit{Amrita Ghrita} has established properties like Deepan, Pachan, Ama Nashan, Ama Shoshak, and Vata-Kaphahara, which are all antagonists to the present entity. This drug is effective in correcting the pathological condition of the disease \textit{Amavata}.

Conclusions

The present clinical study has been undertaken to evolve the treatment procedure for \textit{Amavata} and to see the efficacy of \textit{‘Amrita Ghrita’}. The study has revealed that a maximum numbers of patients had significant results in their signs and symptoms. \textit{‘Amrita Ghrita’} has shown significant reduction in positivity of the RA titer ($t > 5.09$, at the 0.00 1% level),
ASO titer ($t > 4.08$, at the 0.001% level), CRP titer ($t > 4.82$, at the 0.001% level), and also weight gain ($t > 5.12$, at the 0.001% level). It has also shown increase in Hb% ($t > 9.22$, at the 0.001% level) and platelet count ($t > 5.90$, at the 0.001% level), and a decrease in ESR ($t > 9.70$, at the 0.001% level). From the above-mentioned observations, it can be concluded that ‘Amrita Ghrita’ gives a ‘Rasayana’ and ‘Bruhana’ effect and improves the nonspecific immunity against Amavata. Finally it can be concluded that Amavata patients have got significant results with ‘Amrita Ghrita’. To draw final conclusions, the trial requires more clinical data.

References

1. Upadhaya Y. Astanghrudayam. 3rd ed. New Delhi: Chaukhambha Publication; 2008. P. 131.
2. Murthy KRS. Madhava Nidanam. 4th ed. New Delhi: Chaukhambha Publication; 2002. P. 95.
3. Yadaiah P. Clinical Panchakarma. 1st ed. Akola: Jaya Publication; 2005. p. 260.
4. Tripathi I. Chakradatta. 4th ed. New Delhi: Chaukhambha Publication; 2002. P. 116.
5. Yadaiah P. Panchakarma in various disease. 1st ed. Akola: Jaya Publication; 2006. P. 60.
6. Tripathi I. Chakradatta. 4th ed. New Delhi: Chaukhambha Publication; 2002. P. 170.
7. Singh G. Immunity (Vyadhikshamatwa) potentiation effect of Rasayana drugs. Proceedings of National Seminar on Rasayana New Delhi: CCRAS; P 113-6.
8. Dhanukar SA, Thatte UM, Rege NN, Bapat RD. Immunomodular effect of Gudchi. Proceedings of National Seminar on Rasayana New Delhi: CCRAS; 1999. P. 179-81.
9. Uniyal MR. Effective Ayurvedic medicinal plants used in Rasayana therapy (Rejuvenative Drug). Proceedings of National Seminar on Rasayana New Delhi: CCRAS; 1999. P. 277-94.
10. Shastri R. Bhaishajya Ratnakari. 8th ed. New Delhi: Chaukhambha Publication; P. 131.
11. Shaha NC. Bharat Bhaishajya Ratnakari. New Delhi: Motilal Banarasidas publication; 1985. P. 210.
12. Sharma PV. Dravyaguna Vighyan. New Delhi: Chaukhambha Publication; 1999. P. 331.
13. http://en.wikipedia.org/wiki/Ginger#cite_note-UMMC-7
14. Sharma PV. Dravyaguna Vighyan. New Delhi: Chaukhambha Publication; 1999. P. 680.
15. Singh SS, Pandey SC. Chemistry and medicinal properties of Tinospora Cordifolia (Guduchi). Indian Pharmacol 2003;35:83-91.