Clinical Research

Clinical effect of Matra Basti and Vatari Guggulu in the management of Amavata (rheumatoid arthritis)

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Abstract

Amavata is the most crippling of the joint diseases. It occurs throughout the world in all climates and all ethnic groups. Though all the Doshas take part in the causation of this disease, Ama and vitiated Vata play the dominant role. The clinical features of rheumatoid arthritis, such as pain, swelling, stiffness, fever, and general debility, are almost identical to that of Amavata. Treatment provides symptomatic relief, but the underlying pathology remains unchecked because of the absence of effective drugs. In the management of Amavata all the acharyas have described the sequential employment of Dipana, Amapachan, Shodhan, and Shaman therapies. For this study, 118 patients of Amavata were randomly divided into two groups. The patients in group A (50 patients) were given Matra Basti with Brihat Saindhavadi Taila along with Vatari Guggulu; the patients in group B (53 patients) were given only Vatari Guggulu. All the patients responded favorably to the treatment in both the groups; however, patients treated with Matra Basti had better relief in most of the cardinal signs and symptoms of the disease.

Key words: Vatari Guggulu, Matra Basti, Amavata, rheumatoid arthritis, Vata, Brihat Saindhavadi Taila

Introduction

Amavata is first mentioned as a separate disease in Madhav Nidana, where it is stated that Mandagni plays a central role in the manifestation of the disease.[3] This theory is very well supported by the view of Acharya Vagbhatta that the main cause of all diseases is Mandagni.[2] Acharya Madhava has described the most characteristic feature of this disease: severe pain similar to a scorpion bite. Asthi and Sandhi are the chief sites of presentation of the cardinal symptoms such as Sandhisthoola, Sandhigraha, Sandhi Sotha, etc. These symptoms resemble the cardinal features of rheumatoid arthritis, i.e., pain, swelling, stiffness, fever, general debility, etc.

Rheumatoid arthritis is a chronic immuno-inflammatory systemic disease that affects mainly the synovial joints, with a possibility of extraarticular manifestations.[4] In the management of Amavata sequential employment of Dipana, Amapachan, Shodhan, and Shaman therapies have been mentioned.[3] The use of Eranda Taila for the treatment of Amavata has been emphasized by almost all the ancient Acharyas. Guggulu is an established anti-inflammatory and antiarthritic drug and so we selected Vatari Guggulu, which has been mentioned in Bhaishajya Ratnavali.[3] for the study.

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Bhava Prakasha[6] has recommended the use of Brihat Saindhavadi Taila for Pan, Abhayang, Virechan, and Basti in the management of Amavata. It is also recommended in Bhaishajya Ratnavali for the management of Amavata. It relieves vitiated Kapha, Vata, and Ama by its properties of Ushna, Tikshna, Suksmna, Singdha, etc. and so it is selected for the Matra Basti, the ultimate treatment of Vata.

Aims and Objectives

1. To study the etiopathogenesis of Amavata
2. To assess the efficacy and mode of action of Matra Basti with Brihat Saindhavadi Taila and Vatari Guggulu in the management of Amavata
3. To evaluate the role of Vatari Guggulu used alone in the management of Amavata

Materials and Methods

Conceptual study: Detailed study of Amavata in relation to rheumatoid arthritis along with the review of drugs chosen for Matra Basti (Brihat Saindhavadi Taila) and Shaman therapy (Vatari Guggulu) from all available books and internet was carried out.

Clinical Study: Patients attending the OPD and IPD of the Panchakarma and Kayachikitsa Department of IPGT and RA, Jamnagar, were enrolled for the study.
Inclusion criteria

Patients having the classical features of Amavata, such as pain in the joints (Sandhishood), Sandhiagraha (stiffness in joints), bodyache (Anganamard), anoressia (Aruchi), thirst (Trushna), Shotha, etc. were randomly selected for inclusion in the study, irrespective of sex, caste, etc. The criteria laid down by the American Rheumatism Association (1998) for the diagnosis of rheumatoid arthritis was used because the signs and symptoms of Amavata closely resemble that of rheumatoid arthritis. Thus, rheumatoid arthritis was diagnosed if a patient had had at least four of the following criteria for 6 weeks or more:
1. Morning stiffness
2. Arthritis of three or more joints
3. Arthritis of hand joints
4. Symmetrical arthritis
5. Rheumatic nodules
6. Presence of rheumatoid factor
7. Radiological changes (hand and wrist)

Exclusion criteria

1. Age less than 16 years and more than 60 years
2. Chronicity of more than 10 years
3. Severe crippling deformities
4. Severe hypertension
5. Diabetes mellitus
6. Cardiovascular disorder, pulmonary tuberculosis, and pregnancy

Management of patients: All the patients of both the groups were given Shunthi Siddha Jala for 3 days for the purpose of Langhan, Dipan, and Richan before starting the treatment.

Group A (Matra Basti and Vatari Guggulu)

- Drug: Vatari Guggulu (oral drug) along with Matra Basti
- Dose: 2 Vati (500 mg) thrice a day
- Duration: 45 days
- Anupana: Lukewarm water
- Matra Basti: Given with 60 ml of Brihat Sandhavadi Taila
- Duration: For 21 days with 3-day intervals every 7 days

Group B (Vatari Guggulu):

- Drug: Vatari Guggulu
- Dose: 2 Vati (500 mg) thrice a day
- Duration: 45 days
- Anupana: Lukewarm water

Method of administration of Matra Basti

The procedure of administration of Basti in general can be divided into three stages, as follows:

Purva Karma

The patients were instructed to come after a light diet (neither too Snigdha nor too Ruksha, and not more than three-fourth of their usual diet). They were also advised to come after elimination of stools and urine. The patients were mainly subjected to local Abhyanga and Mrudu Swedana prior to the administration of Matra Basti.

Pradhanaka Karma

After Purva Karma, the patient was advised to lie down in the left lateral position on the Basti (enema) table with the left lower extremity kept straight and the right lower extremity flexed at the knee and hip joints. The patient was asked to keep his left hand below the head. Brihat Sandhavadi Taila was applied to the anus in a small amount. Sixty milliliters of lukewarm Brihat Sandhavadi Taila was taken in an enema syringe and a rubber catheter lubricated with Brihat Sandhavadi Taila was attached to the enema syringe. After expelling the air from the enema syringe, the rubber catheter was passed through the anus of the patients up to the length of 4 inches. The patient was asked to take deep breaths and to lie still while the catheter, and the drug, were introduced. The total amount of Taila was not administered in order to avoid the entrance of Vayu into the Pakwashaya.

Pashchat Karma

After the administration of Basti, the patient was advised to lie in supine position with the arms and legs spread out freely over the table. Both legs were raised for few minutes so as to raise the waist and gently tapped over the hips. Simultaneously, gentle taps were also given on his soles and over the elbow and palms so that the Matra Basti would spread throughout the body and be retained for the required period. After some time the patient was advised to get up from the table and rest in his bed but to avoid sleeping during the day. Basti Pratyagamana Kala was noted in each case.

Dietary restrictions

The patients were advised to strictly follow the restrictions with regard to food, food habits, and lifestyle. They were instructed to avoid the possible causative factors of disease and causes for Agnimandya.

Follow-up

A follow-up study was carried out 1 month after completion of treatment, when the following laboratory investigations were done:

1) RA factor
2) Biochemical - serum uric acid, cholesterol, total protein, etc.
3) Hematological – Hb (Haemoglobin), TLC (Total Leucocyte count), DLC (Differential Leucocyte count), ESR (Erythrocyte Sedimentation Rate), PCV (Packed Cell Volume), etc.
4) Routine urine analysis

Criteria for assessment:

- Relief in the cardinal signs and symptoms was assessed using a special scoring system
- Improvement in general health
- Improvement in laboratory parameters
- Functional assessment was done by measuring walking time, grip strength, foot pressure, and general functional capacity.
- Degree of disease activity was estimated according to the criteria laid down by American Rheumatism Association (1967).

The obtained data were statistically analyzed.

Total effect of therapy

The obtained results were graded as follows:

- Complete remission: 100% relief
- Marked improvement: ≥75% relief
- Moderate improvement: 50%–75% relief
- Mild improvement: 25%–50% relief
- Unchanged: <25% or no relief
The patients were not given any other therapies other than that advised in the study treatment protocol so to assess effect of these therapies specifically.

**Observations**

In this study a total 118 patients were registered, out which 105 completed the treatment; 15 patients dropped out.

Of the study subjects 32.20% belonged to the age-group of 41–50 years and 29.66% to the age-group of 31–40 years. The majority were females (79.66%), married (93.22%), and housewives (72.88%). Most of the patients were from the middle socioeconomic class (60.17%), and 50.85% were graduates.

Most of the patients had Kapha Vata (dominant) Pradhana Prakriti (90.68%). The majority (85.05%) reported Mandagni (decreased status of agni), and the others (16.95%) reported Vishamagni. Most of the patients (86.45%) had Madhyamakosha and 7.62% had Krura Kotha; 56.78% of the subjects had had the disease for less than 2 years.

**Nidana** factors like Vishamasana (irregular dietary habits) were present in 76.27% of the patients, Snidgha Ahara Sevana in 61.02%, Guru Ahara Sevana (intake of foods which take longer time for digestion) in 57.63%, Divaswapna (sleeping during day time) in 72.88%, Vegasanadharana in 66.10%, and Nischalata (decreased movements of body) in 44.07% of patients. Among the Manasika Nidana factors, Chinta (worry) was found in the maximum number of patients, (i.e., 44.07%), followed by Shoka (grief) in 35.90% of patients.

It was observed that with regard to the cardinal symptoms, the most common one was pain in joints (Sandhihusha), which was present in 100% of the patients; his was followed by joint stiffness (Sandhigraha) (94.07%), swelling in joints (Sandhisotha) (71.19%), and tenderness in joints (Sparshasahayata) (46.61%). The proximal interphalangeal (PIP) & Wrist joint each were involved in 80.51% of patients, the knee joint in 72.88%, the ankle joint in 69.49%, the distal interphalangeal joint (DIP) and elbow joint in 55.08% each, the shoulder in 47.46%, the MT in 20.34%, the neck joint in 12.71%, the MC in 10.17%, and the hip joint in 6.78%. It was found that 33.05% of the patients were positive for the RA factor, while the test was negative in 66.95%. In the present study, 85.71% of the patients had no deformity; rheumatoid nodule was observed in 3.39% of the patients, a swan neck deformity was seen in 1.69%, ankylosis in 0.85%, and uhar deviation in 1.67%.

The maximum time noted for Basti retention was 18 hours, while the minimum time was 1.5 hours (mean time 4 hours).

**Effect of therapies**

In group A (MB and VG), there were a total of 52 patients; 50 were treated with *Matra Basti* of Brihat Saindhavadi Taila along with *Vatari Guggulu*, while 2 patients were dropped out of the study. After the treatment of group A, maximum relief in pain in was found by 77.61% in shoulder joint followed by 71.68% in wrist joint (Table 1). It was noticed that after treatment, maximum relief in Sandhishotha was found in Hip joint (86.71%) followed by Knee joint (80.25%) (Table 2). It was found that stiffness was relieved by 85.18% in metatarsals followed by 80.25% in Knee joint (Table 3). After the therapy, it was found that maximum relief in tenderness was found in Metatarsals (81.81%) followed by Knee joint (80.32%) (Table 4).

In general, this therapy provided highly significant relief of joint pain (Sandhishusha) (68.31%), joint pain (Sandhisotha) (73.08%), joint stiffness (Sandhigraha) (74.12%) and joint tenderness (Sparshasahatva) (71.79%). General symptoms like bodyache (Angamarda), anorexia (Aruchi), thirst (Trishna), nausea (Hrillasa), heaviness of body (Gaurava), and fever (Jwara) highly significant relief in 84.85%, 79.31%, 100%, 80%, 78.26%, 71.43%, and 72.72% of patients, respectively. On functional assessment, there was highly significant relief in grip strength (21.65%), foot pressure (11.64%), and walking time (13.81%).

In group B (VG), there were 66 patients; 53 patients completed treatment with with *Vatari Guggulu*, while 13 patients dropped out of the study. It was found that maximum relief in Sandhishusha was found in neck (62.50%) followed by relief in knee joint (53.41%) [Table 5]. It was found that maximum relief in Sandhisotha was found in neck (61.54%) and Knee joints (53.41%) [Table 6]. It was found that after the therapy, maximum relief in stiffness was found in Knee joint i.e 51.42% followed by relief in ankle joint i.e 46.67% respectively [Table 7]. After the therapy, it was seen that maximum relief i.e 46.15% was found in metacarsals followed by 45.45% relief in metatarsals [Table 8].

In general, this therapy provided highly significant relief of joint pain (Sandhishusha) (45.51%), joint swelling (Sandhisotha) (42.98%), joint stiffness (Sandhigraha) (43.76%), and joint tenderness (Sparshasahatva) (38.08%). There was highly significant relief of general symptoms like Angamarda (bodyache), Aruchi (anorexia), and Gaurava (heaviness of body) in 60.71%, 73.91%, 70.83%, and 54.54% of patients, respectively, while there was significant relief of fever (Jwara) (57.14%). On functional assessment, there was highly significant relief in grip strength (6.28%), foot pressure (8.74%), and walking time (9.27%).

The mean ESR values before treatment in groups A and B were 46.76 and 42.28, respectively; this was reduced to 46.12 and 39.54, respectively, after treatment. Thus, in group A, there was 1.57% reduction in the ESR, while in group B it was 6.47% [Table 9]. After assessing the overall effect of therapy, it can be seen that marked improvement and moderate improvement was more in group A by 52% and 42% respectively while in group B Marked improvement was only 11.32% and moderate improvement was 28.30% respectively [Table 10].

**Discussion**

In the present study, 32.20% patients were in the 41–50 years age-group and 29.66% in the age-group of 31–40 years. This study suggests that rheumatoid arthritis mainly affects middle-aged people. In present study, most of the patients were female (79.66%). Literature reports also suggest that the disease is seen predominantly in females.

According to Acharya Charaka, *Matra Basti* is always applicable to those emaciated due to overwork, physical exercise, weight lifting, journey on vehicles, indulgence in women, in debilitated person and in those afflicted with Vata disorders. *Matra Basti* promotes strength, without calling for any strict regimen of.
diet, and also causes easy elimination of Mala and Mutra. It performs the function of Brimhana and cures Vatavyadhi. [7]

When we look at effect of therapies in the Matra Basti group, we can see that most of the patients (52%; 26 patients) showed marked improvement, while in the Vatari Guggulu group most of the patients (54.72%; 29 patients) showed mild improvement. Thus, both the therapies provided significant relief of the cardinal as well as general signs/symptoms of Amavata. However, there was better relief in the Matra Basti group than in the Vatari Guggulu group. Basti is thought to be an ultimate solution for the eradication of Vata Dosha, with Vatari Guggulu helping to maintain the effect through its Dipana, Anapachana, anti-inflammatory, and antiarthritic properties.

In the present study, a total of 15 patients dropped out: 13 patients in group A and 2 patients in group B. Patients of group A are the Khagram, et al.: Effect of Matra Basti and Vatari Guggulu on Amavata.
A were taking Vatari guggulu, but those who did not respond well to the treatment left the treatment. Patients of group B were unwilling to continue Basti therapy and thus did not complete the treatment.

Patients with seropositive Amavata did not respond well as compared to seronegative patients. Also, patients with joint deformities and long-standing disease responded poorly in comparison to others.

Probable mode of action of Matra-Basti: Basti therapy is considered as prime among all the therapeutic measures, especially for management of Vatavyadhies, and some physicians accept it as a complete therapeutic measure. Basti Dravyas can act as Vatahara, Shulahara, Shothahara, Srotoshodhaka, Yogavahi, Agnideepaka, and Rasayana.

Our Acharyas have considered the rectum (Guda) as the root of the body (Mula of Sharira). According to Acharya Charaka: 'As

### Table 4: Effect of therapy on tenderness in different joints (Group A)

| Cardinal features | n   | Mean score | (%) of relief | SD ± | SE ± | t     | P value |
|-------------------|-----|------------|---------------|------|------|-------|---------|
|                   | B.T. | A.T.       |               |      |      |       |         |
| Proximal interphalangeal | 26  | 2.38       | 0.65          | 72.58| 0.60 | 0.12  | 14.61   | <.001   |
| Distal interphalangeal | 19  | 2.63       | 0.73          | 72.00| 0.74 | 0.17  | 11.20   | <.001   |
| Metacarpals        | 03  | 2.67       | 1.00          | 62.50| 0.58 | 0.33  | 5.00    | <.02    |
| Wrist              | 27  | 2.41       | 0.52          | 76.46| 0.70 | 0.13  | 14.06   | <.001   |
| Elbow              | 24  | 2.37       | 0.79          | 66.67| 0.88 | 0.18  | 8.81    | <.001   |
| Shoulder           | 17  | 2.35       | 0.53          | 77.50| 0.63 | 0.15  | 11.82   | <.001   |
| Metatarsals        | 09  | 2.44       | 0.44          | 81.81| 0.50 | 0.17  | 12.00   | <.001   |
| Ankle              | 26  | 2.27       | 0.54          | 76.27| 0.60 | 0.12  | 14.61   | <.001   |
| Knee               | 26  | 2.35       | 0.46          | 80.32| 0.71 | 0.14  | 13.56   | <.001   |
| Hip                | 02  | 2.50       | 1.00          | 60.00| 0.71 | 0.50  | 3.00    | >.05    |
| Neck               | 06  | 2.17       | 0.83          | 61.54| 0.82 | 0.33  | 4.00    | <.02    |

### Table 5: Effect of therapy on Sandhishula in different joints (Group B)

| Cardinal features | n   | Mean score | (%) of relief | SD ± | SE ± | t     | P value |
|-------------------|-----|------------|---------------|------|------|-------|---------|
|                   | B.T. | A.T.       |               |      |      |       |         |
| Proximal interphalangeal | 42  | 1.50       | 1.17          | 43.75| 0.54 | 0.08  | 14.07   | <.001   |
| Distal interphalangeal | 26  | 2.61       | 1.31          | 50.00| 0.55 | 0.11  | 12.14   | <.001   |
| Metacarpals        | 07  | 2.57       | 1.28          | 44.44| 0.69 | 0.26  | 4.38    | <.01    |
| Wrist              | 44  | 2.52       | 1.56          | 37.84| 0.64 | 0.10  | 9.81    | <.001   |
| Elbow              | 29  | 2.55       | 1.31          | 48.65| 0.69 | 0.13  | 9.69    | <.001   |
| Shoulder           | 26  | 2.54       | 1.35          | 46.97| 0.63 | 0.12  | 9.59    | <.001   |
| Metatarsals        | 10  | 2.80       | 1.40          | 50.00| 0.52 | 0.16  | 8.57    | <.001   |
| Ankle              | 36  | 2.39       | 1.36          | 43.02| 0.65 | 0.11  | 9.43    | <.001   |
| Knee               | 39  | 2.26       | 1.05          | 53.41| 0.69 | 0.11  | 10.83   | <.001   |
| Hip                | 02  | 2.50       | 2.00          | 20.00| 0.70 | 0.50  | 1.00    | >.05    |
| Neck               | 07  | 2.28       | 0.86          | 62.50| 0.53 | 0.20  | 7.07    | <.001   |

### Table 6: Effect of therapy on Sandishotha in different joints (Group B)

| Cardinal features | n   | Mean score | (%) of relief | SD ± | SE ± | t     | P value |
|-------------------|-----|------------|---------------|------|------|-------|---------|
|                   | B.T. | A.T.       |               |      |      |       |         |
| Proximal interphalangeal | 31  | 2.55       | 1.54          | 39.24| 0.52 | 0.09  | 10.78   | <.001   |
| Distal interphalangeal | 18  | 2.33       | 1.27          | 45.23| 0.42 | 0.10  | 10.76   | <.001   |
| Metacarpals        | 06  | 2.33       | 1.17          | 50.00| 0.75 | 0.31  | 03.80   | <.01    |
| Wrist              | 31  | 2.35       | 1.29          | 45.20| 0.51 | 0.09  | 11.57   | <.001   |
| Elbow              | 18  | 2.27       | 1.22          | 46.34| 0.80 | 0.19  | 05.58   | <.001   |
| Shoulder           | 17  | 2.18       | 1.35          | 37.84| 0.63 | 0.15  | 05.34   | <.001   |
| Metatarsals        | 07  | 2.57       | 1.43          | 44.44| 0.37 | 0.14  | 06.73   | <.001   |
| Ankle              | 26  | 2.08       | 1.27          | 38.89| 0.63 | 0.12  | 06.49   | <.001   |
| Knee               | 27  | 2.18       | 1.22          | 53.41| 0.44 | 0.08  | 11.45   | <.001   |
| Hip                | 02  | 2.50       | 2.00          | 20.00| 0.70 | 0.50  | 01.00   | >.05    |
| Neck               | 06  | 2.16       | 0.83          | 61.54| 0.52 | 0.27  | 06.32   | <.01    |
Table 7: Effect of therapy on Stiffness in different joints (Group B)

| Cardinal features        | n  | Mean score (SD ±) | SE ± | t     | P value |
|--------------------------|----|------------------|------|-------|---------|
| Proximal interphalangeal | 37 | 2.38 ± 1.35      | 0.50 | 12.51 | <.001   |
| Distal interphalangeal   | 25 | 2.36 ± 1.16      | 0.50 | 12.00 | <.001   |
| Metacarpals              | 06 | 2.33 ± 1.33      | 0.63 | 03.87 | <.02    |
| Wrist                    | 39 | 2.31 ± 1.10      | 0.80 | 9.40  | <.001   |
| Elbow                    | 27 | 2.22 ± 1.15      | 0.55 | 9.37  | <.001   |
| Shoulder                 | 24 | 2.17 ± 1.17      | 0.51 | 9.59  | <.001   |
| Metatarsals              | 08 | 2.37 ± 1.50      | 0.83 | 2.96  | <.05    |
| Ankle                    | 34 | 2.20 ± 1.18      | 0.58 | 10.41 | <.001   |
| Knee                     | 35 | 2.00 ± 0.97      | 0.62 | 9.85  | <.001   |
| Hip                      | 02 | 2.50 ± 2.00      | 0.70 | 10.00 | <.05    |
| Neck                     | 06 | 2.17 ± 1.17      | 0.63 | 3.87  | <.02    |

Table 8: Effect of therapy on tenderness in different joints (Group B)

| Cardinal features        | n  | Mean score (SD ±) | SE ± | t     | P value |
|--------------------------|----|------------------|------|-------|---------|
| Proximal interphalangeal | 17 | 2.82 ± 1.88      | 0.66 | 5.89  | <.001   |
| Distal interphalangeal   | 09 | 2.44 ± 1.44      | 0.71 | 4.25  | <.01    |
| Metacarpals              | 05 | 2.60 ± 1.40      | 0.83 | 3.20  | <.05    |
| Wrist                    | 18 | 2.55 ± 1.55      | 0.48 | 8.75  | <.001   |
| Elbow                    | 11 | 2.54 ± 1.63      | 0.53 | 5.59  | <.001   |
| Shoulder                 | 08 | 2.75 ± 1.62      | 0.64 | 4.96  | <.01    |
| Metatarsals              | 04 | 2.75 ± 1.50      | 0.64 | 5.00  | <.02    |
| Ankle                    | 13 | 2.23 ± 1.46      | 0.60 | 4.63  | <.001   |
| Knee                     | 13 | 2.30 ± 1.38      | 0.27 | 12.0  | <.001   |
| Hip                      | 02 | 2.50 ± 2.00      | 0.71 | 1.73  | >.05    |
| Neck                     | 03 | 2.33 ± 1.33      | 1.00 | 1.73  | >.05    |

Table 9: Effect on ESR value in groups A and B

| Group | n  | Mean score (SD ±) | SE ± | t     | P value |
|-------|----|------------------|------|-------|---------|
| A     | 50 | 46.76 ± 1.37     | 9.56 | 0.47  | >.05    |
| B     | 53 | 42.28 ± 1.39     | 3.16 | 0.86  | >.05    |

Table 10: Overall effect of therapy on 103 patients of Amavata

| Effects (%)            | Group A | Group B |
|------------------------|---------|---------|
|                       | No. of patients | Percentage | No. of patients | Percentage |
| Complete remission (100) | 0       | 0       | 0       | 0       |
| Marked improvement (76-99) | 26      | 52.00   | 6       | 11.32   |
| Moderate improvement (51–75) | 21      | 42.00   | 15      | 28.30   |
| Mild improvement (25–50)   | 03      | 6.00    | 29      | 54.72   |
| Unchanged (<25)           | 0       | 0.0     | 3       | 5.66    |

A tree irrigated in its root attains blue branches with beautiful tender leaves, flowers and fruits in time, and attains a big stature, so too the man with unctuous enema given through the rectum.[8]

On the action of Basti, Vagabhatta[9] says the Virya of Basti is conveyed to Apana and then to Samana Vata, which may regulate the function of Agni. It then goes to Udana, Vyana, and Prana, thus providing its efficacy all over the body. At the same time Basti by pacifying Vata, restores the disturbed Kapha and Pitta at their original seats and thus helps in breaking the pathogenesis.

Thus, according to Ayurveda, the Veerya (active principle)
of the ingredients used in the Basti gets absorbed and then, through the general circulation, reaches at the site of the lesion and relieves the disease.

Modern pharmacokinetic studies have also proved that drug administration via the rectum can achieve higher blood levels of the drug than administration through the oral route due to partial avoidance of hepatic first-pass metabolism. The rectum has a rich blood and lymph supply and drugs can cross the rectal mucosa as they can other lipid membranes. Thus, un-ionized and lipid-soluble substances are readily absorbed from the rectum. The portion absorbed from the upper rectal mucosa is carried by the superior hemorrhoidal vein into the portal circulation, whereas that absorbed from the lower rectum enters directly into the systemic circulation via the middle and inferior hemorrhoidal veins. Thus, administration of drugs in the Basti form has faster absorption and provides quicker results. The rectal wall contains neuroreceptors and pressure receptors which are stimulated by various Basti Dravyas. Stimulation results in increase in conduction of sodium ions. The inward rush of sodium ions through the membrane of the unmyelinated terminal is responsible for generating the action potential, influx of ions there by generating action potential. Generally, the action potential is initiated by an increase in permeability to sodium ions. Satindhava Lavuma present in Basti probably generates the action potential and helps in diffusion and absorption of the Dravya Dravyas.

The drugs, immediately after entering into the Pakwashaya (intestine), strike at the very root of vitiated Vata. By virtue of their permeability the drugs may increase the normal bacterial flora of the colon and thereby modulate the rate of endogenous synthesis of vitamins B12 as well as vitamin K, which are normally manufactured by bacterial flora. Vitamin B12 may have a role to play in the regeneration and maintenance of nerve cells. Basti Karma also reverses the effects of degeneration by enhancing immunity.[10]

Basti therapy may be stimulator for Gastrointestinal tract and also for whole body functions. Regulatory peptides like serotonin, enteroglucagon, and vasoactive intestinal polypeptide (VIP) are produced in the colon. Many of the peptides have a role in the functioning of the basal ganglia and some of the substances among them, such as (Cholecystokinin) and VIP, are stimulators of the dopaminergic neuronal system. It is possible that Basti by stimulating many factors in GIT physiology affects on regulatory functions of these peptides either by moderation or by stimulation. Thus, Basti Karma exerts a largely systemic action exerting local action in Gastrointestinal tract by operating through large intestine involving enteric nervous system. Basti Karma can activate the autonomic nervous system and thereby help in the evacuation of Basti Dravya

**Doshavasechana**

The effects of Basti can be encolonic (acting on the tissue of the colon), endocolonic (acting inside the colon), and diacolonic (systemic action). In the present study, Brihat Satindhavadi Taila was used for Matra Basti. Eranda Taila and most of its contents have basically Ushna, Vata-Kaphashamaka, Shothhara (anti-inflammatory), Vednasthapana (analgescic), and Deepaka properties. These properties of Basti Dravya helps overcome the obstruction and expel the morbid material from the entire body, thus interrupting the pathogenesis of disease. Therefore, we can say that Basti plays a pivotal role in the management of Amavata.

**Probable mode of action of Vatari Guggulu**

Vatari Guggulu contains Erand taila, Shudha gandhak, Shudha Guggulu, Haritaki, Bibhitaki, and Amalaki in equal proportions. Maximum drugs of Vatari guggulu have ushna veerya and katu vipaka. Also, it has dominantly Tikta, Katu, and Kashaya Rasa, but it also has a Vatakapha Shamaka property. Amalaki, Haritaki, and Gandhaka has Rasayanaya effects, and the antioxidant property Amalaki has been proved.

In the pathogenesis of Amavata, the prime Doshas involved are Vata and Kapha. In the first stage of disease due to Mandagni, formation of Ama takes place and, here, Vatari Guggulu does Amapachana by the properties of Laghu, Raksha, Tikshna Guna, Katu, Tikta Rasa, Ushna Virya, and Katu Virya, all of which acts against the Guru, Snidhtha, Pichhitha, etc. properties of Ama. Later, the imbalance of Kapha and Vata is checked by the Vata Kapha Shamaka action of the drug. Further, Ama formation is stopped by the Dipaniya action. It relieves the symptoms of Sandhishtholda (pain in joints), Sotha (swelling), Aruchhi (dislike for food), etc., by its Vednasthapana (analgescic) and Sothabara (anti-inflammatory) action. Also the associated symptoms like Vibhandha (constipation), Anaha, etc., are reduced by Amulomana and Virechan Karmas of the drugs like Haritaki and Erand taila. Thus, due to its Deepana-Pachana and Vata Kapha Shamaka properties, it is very suitable for interrupting the pathogenesis of the disease and to combat the main culprits, i.e., Vata, Kapha (Ama), and Mandagni, that are the root cause of Amavata.

**Conclusion**

Amavata is first mentioned in Madhava-Nidana as a separate disease, and a complete picture of its Nidana, Samprapti, and Samanya as well as Praviddha Rupa is given. It is mostly a disease of Madhyama Rogamarga with Chirakati Swabhava. Ama and Vata being contradictory in nature make it difficult to plan the line of treatment. In this study, although the improvement was statistically highly significant in both the groups, the Matra Basti group (group A) showed comparatively better relief than the Vatari Guggulu group (group B). Thus, Basti can be thought of as an ultimate solution for the eradication of Vata Dosha, after which Vatari Guggulu can maintain it by its Dipana, Amapachana, anti-inflammatory, and antiarthritic properties. On comparing the effect of two therapies it can be concluded that Matra Basti provides significantly better relief than Vatari Guggulu in most of the signs and symptoms of the disease.

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हिन्दी सारांश
आमवात रोग की चिकित्सा में वातारि गुम्गुल एवं मात्राबस्ति का तुलनात्मक अध्ययन

शीता ख़ाग्राम चार्मी मेहता वी.डी.शुक्ला अलंकृता दवे

आचार्य माधव ने सर्वप्रथम आमवात का विस्तृत वर्णन माधवविद्वान में किया है। इसको आधुनिक चिकित्सा विज्ञान में स्क्रिप्टोफ्स आर्थिकों के साथ तुलना कर सकते हैं। आमवात की चिकित्सा का वर्णन करते हुए आचार्य चक्रवर्त्त ने क्रमानुसार लंघन, दीपन, पावन, शोधन तथा शमन चिकित्सा का वर्णन किया है। आधुनिक चिकित्सा विज्ञान में वर्णित चिकित्सा, सम्प्रति विघटन न करते हुए सिर्फ़ लाभानुगत लाभ ही करती है। वर्तमान में कुल 918 आतुरों को पंजीकृत किया गया। उन्हें सामान्य विवेक पद्धति से दो वर्गों में विभाजित किया गया। वर्ग अ में वातारि गुम्गुल की 2 गोली दिन में 3 बार उष्णोदक के साथ 45 दिनों तक दी गयी। साथ ही ब्रह्म संघवादि तेल (60 मिली.) की मात्रा बस्ति 21 दिनों तक दी गयी। वर्ग ब में सिर्फ़ वातारि गुम्गुल की 2 गोली दिन में 3 बार उष्णोदक के साथ 45 दिनों तक दी गयी। दोनों वर्गों में आतुरों पर औषध के चिकित्साल्क प्रभाव का अध्ययन विशेष रूप से निर्मित गवेषण प्राप्त के आधार पर किया गया। पाए गए परिणामों से यह साबित हुआ कि वर्ग अ से प्रामाण्य वर्ग ब की तुलना में अच्छे आये। वर्ग अ में उत्तम लाभ 6.2 % तथा मध्यम लाभ 42 % आतुरों में प्राप्त हुआ। वर्ग ब में उत्तम लाभ 91.3 2% तथा मध्यम लाभ 28.30 % आतुरों में प्राप्त हुआ।

इसके बारे में निष्कर्ष निकाला जा सकता है कि मात्रा बस्ति के साथ दी गयी शमन औषध से आमवात में अधिक लाभ मिलता है।