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A comparative effect of churna basti and vaitarana basti in the management of amavata (*Rheumatoid arthritis*): A clinical study

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Abstract

Constant use of viruddhahara and chesta immediately after consumption of snigdhaahara leads to ama, which gets circulated throughout the body by vayu and then accumulates at shleshmasthana, leading to the manifestation of Amavata. In Ayurveda principles of treatment of amavata are langhana, swedana and drugs having tikta, katurasa, deepana, virechana, snehapana and basti. Bastikarma is one among the panchakarma which acts predominantly on vatadosha. By using various combinations of ingredients, it is considered beneficial even in other doshik involvement and disease of all the three margas, hence said to be ardhachikitsa.

Objectives of the study

1. To evaluate the efficacy of Churnabasti and Vaitaranabasti administered in the management of Amavata.

2. To compare the efficacy of Churnabasti and Vaitaranabasti in the management of Amavata.

Study Design: 40 patients of Amavata were randomly recruited to 2 groups. The group A patients received Churnabasti and group B patients received Vaitaranabasti in yoga basti schedule. Anuvasana with Brihatsaindhavaditaila was given in both the groups.

Sandhishoola, Sparshaasahyata, Sandhistabdhatata, Gourava were taken as subjective parameters. Walking time, Range of movements, Grip strength, pressing power, joint swelling were taken as objective parameters.

In group A out of 20 patients, 7 patients showed marked improvement, 10 patients showed moderate improvement, 3 patients showed mild improvement. In group B out of 20 patients, 2 patients showed marked improvement, 13 patients showed moderate improvement, 5 patients showed mild improvement and none of the patients showed no improvement in both the groups.

Keywords: Amavata, Churnabasti, Vaitaranabasti

1. Introduction

The most ancient system of medicine is Ayurveda which originated thousands of years back, is the only discipline that proposed with the dual objects of keeping each and every person healthy as well as to root out diseases^[1]. Panchakarma is one of the important branches of Ayurveda. Panchakarma is a science for purification of body, because vitiation of doshas beyond a particular level produces endotoxins which tend to accumulate in the srotas (minute channels) of the body which are to be removed for maintaining disease free health which is done by Panchakarma. Basti therapy is the process in which the medicated oil or decoction is administered into the pakwashaya with the help of bastiputaka^[2]. In Ayurveda chikitsa, the role of Panchakarma, specially Basti Karma is the best therapy to treat all vatavyadhi (Bastivataharanam shreshtam)^[3]. The changing life style of human being by means of diet and behavior pattern plays a major role in the manifestation of several disorders. Thus this type of pattern may also lead to the development of the disease Amavata. Amavata is a disease having vata and ama as an important causative factor for its origin^[4]. They are contradictory in nature and thus poses difficulty in planning the line of treatment. Rheumatoid Arthritis can be correlated to Amavata on the basis of etiology, pathology, therapeutic sign and symptoms. The figures of prevalence vary substantially ranging from 0.3% to 2.1% of the population^[5]. Due to wide spectrum of disease, much prevalence in the society and lack of effective medicaments, the disease has been chosen for the study. The line of treatment described for the disease as "Langhanam swedamtiktam"^[6] can be summarized under following captions.

1. Measures to bring Agni to normal state.
2. Measures to digest ama.
3. Measures to eliminate vitiated vata and ama.

Churna Basti having mixture of SaindhavaLavana, Sneha, Churna, Ushnajala and Amladravya as avapa. Churna contains Dravyas like Rasna, Vacha, Bilwa, Shatapushpa, Ela, Putika, Madanaphala, Pippali, Devadaru, and kushta [7]; collectively these drugs are having gunas of ushna, teekshna, deepana-pachana, vata-kaphahara and shula-shothahara effect. Even though in ama avastha, basti is generally contraindicated but teekshnaniruhabasti which is having Agni deepaka, pachaka and amahara properties can be administered^{[8],[9]}. VaitaranaBasti is described in Chakradatta Niruhadhikara section with its special indication in Amavata^[10]. So here Churna Basti and VaitaranaBasti have been taken for comparative study.

2. Materials and Methods

2.1 Source of data

Fourty patients diagnosed as Amavata were taken for study from OPD and IPD of Karnataka Ayurveda Medical College and Hospital, Integrated AYUSH Hospital of DistrictWenlock Hospital Mangalore and medical camps.

2.2 Method of collection of data

Fourty selected patients were placed in to 2 groups.

2.3 Diagnostic Criteria

- Lakshanas of Amavata are Angamarda, Aruchi, Trusna, Alasya, Gaurava, Jwara, Apaka, Sandhishoola, Sandhishotha, Stabdhata and Sparshasahyata^[11].
- 1987 American Rheumatism Association Revised criteria^[12].
- Morning stiffness in and around joints for at least 1 hour
- Soft tissue joint swelling observed by physician at least 3/14 joint groups (R or L: MCP, PIP, wrist, elbow, knee, ankle, MTP)
- Soft tissue joint swelling in a hand joint (MCP, PIP or wrist)
- Symmetrical swelling of one joint area in (2) above
- Rheumatoid nodule
- Positive Rheumatoid factor
- Radiograph changes on wrist/hands: erosions or juxta-articular osteoporosis.
- For the diagnosis, the patient must have at least four of the symptoms present for atleast 6 weeks mentioned in above criteria.

2.4 Inclusion Criteria

1. Patients were selected irrespective of their gender, caste or religion.
2. Chronicity less than 10 years.
3. Patients between the ages of 20 to 50 years
4. The patients fit for Basti Karma.

2.5 Exclusion Criteria

1. The patient with joint deformities.
2. Patients with other systemic diseases.
3. Patient unfit for Basti Karma

2.6 Research design

40 patients suffering from Amavata were selected. The parameters of signs and symptoms analyzed statistically. Out of 40, 20 patients were administered churnabasti and Anuvasanabasti with 75 ml of Brihatsaindhavaditaila in yoga basti schedule. Other 20 patients were administered vaitaranabasti and Anuvasanabasti with 75 ml of Brihatsaindhavaditaila in yoga basti schedule.

Table 1: Churna Basti Ingredients

Ingredients	In Pala	In ml/gm
Saindhavalavana	½ karsha	6g
Brihatsaindhavaditaila	1 ½ pala	75ml
Rasnadichurna	1 pala	50g
Ushnajala	5 pala	250 ml
Dhanyamla	1 ½ pala	75ml
TOTAL		456ml

Table 2: Vaitarana Basti Ingredients

Ingredients	In Pala	In gm/ml
Amlika	1 pala	50gm
Guda	½ pala	25gm
Saindhava	1 karsha	12gm
Goarka	1 kudava	200gm
Brihatsaindhavaditaila	1 pala	50ml
Total		337ml

2.9 Schedule of the basti: Yoga Basti

2.10 Method of preparation

To prepare NiruhaBasti, the contents of it are mixed in a particular fashion as mentioned in classics

2.11 Treatment plan

Group A: Anuvasanabasti with Brihatsaindhavaditaila 75ml, and churnabasti in yoga basti schedule.

Group B: Anuvasanabasti with Brihatsaindhavaditaila 75ml and vaitaranabasti in yoga basti schedule.

2.12 Duration of study

- 1-8th day: Basti in Yoga Basti schedule
- 8 days followed by pariharakala of 16 days.
- Follow up after 24 days

2.13 Assessment criteria

The patients were observed before the treatment, after the treatment and after the follow up. The change in subjective signs and symptoms were assessed by suitable scoring method and objective parameters using appropriate clinical tools^[13]. Details of which are given below.

2.13.1 Subjective parameters

- Sandhishoola
- Sparshaasahyata
- Sandhistabdhata
- Gaurava

2.13.2 Objective parameters

- Walking time
- Range of movement
- Grip strength
- Pressing power
- Joint swelling

a) Sandhishoola (pain in the joint)

- No pain – 0
- Pain occasional, can be managed without drug -01
- Pain frequent but no difficulty in moving – 02
- Pain persistent, slight difficulty in moving and can be managed with drugs -03
- Pain persistent, more difficulty in moving, unmanageable even with drugs -04

b) Sparshaasahyata (tenderness of joint)

- No tenderness -0

- Subjective experience of tenderness -01
- Wincing the face on pressure -02
- Wincing the face with withdrawal of affected parts on pressure -03
- Resist touching -04

c) Sandhistabdhatta (stiffness of the joint)

- No stiffness or stiffness lasting for 5 minutes- 0
- Early morning stiffness upto 30 minutes -01
- Early morning stiffness more than 30 minutes and less than 45 minutes-02
- Morning stiffness more than 45 minutes -03

d) Gaurava (heaviness of body)

- No feeling of heaviness -0
- Occasional heaviness in body but does usual work -01
- Continuous heaviness in body but does usual work – 02
- Continuous heaviness which hampers usual work -03
- Unable to do any work due to heaviness -04

e) Walking time

The patients were asked to walk a distance of 25 feet and the time taken was recorded before, after treatment and after follow up by using stop watch.

f) Range of movements

Will be assessed using goniometer before, after treatment and after follow up.

g) Grip strength

To find the functional capacity of the affected upper limb, the patient's ability to compress an inflated ordinary sphygmomanometer cuff. Patients were asked to squeeze the

inflated cuff upto 50mmHg of the sphygmomanometer and the grip strength has been recorded before, after the treatment and after follow up in mmHg depending upon the rise of mercury column.

- If the scale shows between 50-55mm/Hg -0
- Between 56-65mm/Hg-01
- Between 66-75 mm/Hg-02
- Between 76-85mm/Hg -03
- 86mm/Hg and above -04

h) Pressing power

Similarly, when the patient presses the same inflated cuff against a table then it is recorded as pressing power

- If the scale shows between 50-55 mm/Hg -0
- Between 56-65mm/Hg- 01
- Between 66-75mm/Hg-02
- Between 76-85mm/Hg -03
- 86mm/Hg and above -04

i) Joint swelling

- No swelling/ not masking the bony land marks of joint-00
- Just covering the bony prominences -01
- Considerably above the land marks may be with positive fluctuation -02
- Gross swelling -03

2.12 Overall assessment of the therapy:

- 0-25% No Improvement
- 26% -50% Mild Improvement
- 51% - 75% Moderate Improvement
- 76% - 100% Marked Improvement

3. Observations and Results

Table 3: Group A

Parameters	BT	AF	%	S.D (±)	S.E(±)	Friedman X2r value	significance
sandhishoola	3.00	1.20	60	.768	.172	18.05	S
sandhistabdhatta	1.15	.3	73.91	.745	.167	8.45	S
gourava	2.0	.45	77.5	.605	.135	20.00	S
swelling	1.35	.55	59	.523	.117	11.25	S
tenderness	1.85	.5	72.97	.587	.131	18.05	S
Walking time	27.55	22.37	18.78	2.077	.464	20.0	S
Pressing power RUL	3.3	3.45	4.55	.671	.150	.20	NS
Pressing power LUL	2.95	3.4	15.25	.826	.185	1.25	NS
Grip strength RUL	2.65	3.10	17	.759	.170	3.20	NS
Grip strength LUL	2.9	3.25	12.07	1.182	.264	1.25	NS
Elbow joint (right flexion)	126.25	137	8.51	10.548	2.359	7.2	S
Elbow joint(right extension)	.00	.00	.00	.00	.00	.00	.00
Elbow joint (left flexion)	126	136	7.94	9.733	2.176	8.45	S
Elbow joint (left extension)	.00	.00	.00	.00	.00	.00	.00
Wrist joint (right flexion)	35	50.50	44.29	13.945	3.118	8.45	S
Wrist joint(right extension)	36	46	28	12.978	2.902	4.05	S
Wrist joint (left flexion)	38.50	50.50	31.17	12.814	2.865	5.00	S
Wrist joint (left extension)	37.25	46	23.49	12.126	2.712	4.05	S
Knee joint (right flexion)	106.5	114.5	7.51	14.272	3.191	4.05	S
Knee joint (right extension)	.00	.00	.00	.00	.00	.00	.00
Knee joint (left flexion)	105	118	12.38	15.166	3.391	8.45	S
Knee joint (left extension)	.00	.00	.00	.00	.00	.00	.00
Ankle joint(right P Flexion)	11	14.25	29.55	4.667	1.043	2.45	NS
Ankle joint (right dorsi flexion)	31.5	33.75	7	4.723	1.056	1.25	NS
Ankle joint (left P Flexion)	12	15	25	4.702	1.051	1.80	NS
Ankle joint (left D flexion)	33.25	34.75	4.51	2.856	.639	1.8	NS

Table 4: Group B

parameter	BT	AF	%	S.D (±)	S.E(±)	Friedman X2r value	Significance
Sandhishoola	2.9	1.5	48	.681	.152	16.2	S
Sandhistabdhatta	1.8	.75	58	.686	.153	12.8	S
Gourava	2.15	.95	56	.768	.172	14.45	S
Swelling	1.7	.9	47.06	.523	.117	11.25	S
Tenderness	1.55	.5	67.74	.510	.114	16.20	S
Walking time	28.77	24.15	16	3.516	.786	20.00	S
Pressing power RUL	2.85	3.7	30	.671	.150	9.80	S
Pressing power LUL	3.15	3.8	21	.745	.167	5.00	S
Grip strength RUL	2.65	3.3	24.53	.671	.15	6.05	S
Grip strength LUL	2.7	3.2	18.52	.761	.170	2.45	NS
Elbow joint (right flexion)	128.75	131.5	2.14	5.25	1.174	1.80	S
Elbow joint(right extension)	0	0.00	0.00	0.00	0.00	0.00	0.0
Elbow joint(left flexion)	124.25	129.0	4	5.73	1.281	5.0	S
Elbow joint(left extension)	0	0.00	0.00	0.00	0.00	0.00	0.0
Wrist joint(right flexion)	48.5	56.5	16	7.678	1.717	7.20	S
Wrist joint(right extension)	44	50	13.64	10.463	2.340	1.80	NS
Wrist joint (left flexion)	41	51	24.39	9.177	2.052	8.45	S
Wrist joint(left extension)	37.75	44	16.56	9.301	2.080	2.45	NS
Knee joint (right flexion)	103	112	9	14.832	3.317	3.20	NS
Knee joint(right extension)	0	0.00	0.00	0.00	0.00	0.00	0.0
Knee joint (left flexion)	114.5	123.5	8	14.105	3.154	6.05	S
Knee joint(left extension)	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Ankle joint(right P flexion)	10	14	40	5.026	1.124	3.2	NS
Ankle joint(right D flexion)	25.25	29.50	16.83	7.122	1.593	4.05	S
Ankle joint(left P flexion)	10	14.5	45	5.104	1.141	4.05	S
Ankle joint(left D flexion)	27.75	29	4.5	2.221	.497	1.25	NS

Table 5: Comparative results of group A and group B

Parameters	Group A (mean score)	Group B (mean score)	Z-value of Mann Whitney	U value	significance
Sandhishoola	1.20	1.50	1.09	159	NS
Sandhidtabdhata	0.30	.75	1.66	138	NS
Gourava	.45	.95	1.97	126	S
Swelling	.55	.9	1.51	143	NS
Tenderness	.5	.5	.12	195	NS
Walking time	22.37	24.15	1.57	141	NS
Pressing power RUL	3.30	2.85	1.71	136	NS
Pressing power LUL	2.95	3.15	.46	182	NS
Grip strength RUL	2.65	2.65	.01	199	NS
Grip strength LUL	2.90	2.7	1.87	167	NS
Elbow joint (right flexion)	126.25	128.75	.91	165	NS
Elbow joint(right extension)	0.00	0.00	0.00	.00	.00
Elbow joint(left flexion)	126	124.25	1.46	145	NS
Elbow joint(left extension)	0.00	0.00	0.00	.00	.00
Wrist joint (right flexion)	35	48.50	2.00	125	S
Wrist joint(right extension)	36	44	0.71	173	NS
Wrist joint(left flexion)	38.5	41	.58	178	NS
Wrist joint(left extension)	37.25	37.75	.08	196	NS
Knee joint(right flexion)	106.50	103	.98	163	NS
Knee joint(right extension)	0.00	0.00	.00	.00	.00
Knee joint(left flexion)	105	114.5	.36	186	NS
Knee joint(left extension)	0.00	0.00	.00	.00	.00
Ankle joint (right P flexion)	11	10	.52	180	NS
Ankle joint (right D flexion)	31.50	25.25	2.38	111	S
Ankle joint(left P flexion)	12	10	1.06	160	NS
Ankle joint(left D flexion)	33.25	27.75	2.59	103	S

RUL- right upper limb, LUL- left upper limb, P- plantar, D-dorsi

4. Discussion

In this study a total of 40 patients suffering from Amavata were studied. Majority of these patients were Age between 41-50 years (67.5%), females (75%), religion Hindu (80%), middle class (72.5%), married (95%), chronicity 1-5 years (60%), with gradual onset (87.5%), progressive in nature (80%), having mandagni (65%), madhyamakoshta (92.5%) and vatakapha prakriti (70%). Sandhishoola and angamarda

was present in all the patients, in 90% of the patients Gourava was observed, in 85% of the patients Sandhistabdhatta was observed, agnidourbalya in 65% patients, nidraviparyaya in 40% patients, aruchi in 37.5% of patients, alasya in 32.5% patients were observed.

4.1 Effect of Churna basti (Group A)

Churnabasti ingredients are, saindhalavana,

brihatsaindhavaditaila, rasnadichurna, ushnajala and dhanyamla. Rasnadichurna contains churnas of rasna, vacha, bilwa, shatapushpa, ela, putika, madanaphala, pippali, devadaru and kushta. Drugs have laghu, teekshna, tridoshashamaka, deepaka and pachaka, amavatahara, agnibalakara, kati, janu, urusandhishulahara, properties. Study Showed significant improvement and out of 20 patients, 7 patients (35%) showed marked improvement, 10 patients (50%) showed moderate improvement, 3 patients (15%) showed mild improvement and no patients showed no change.

4.2 Effect of Vaitarana basti (Group B)

Vaitaranabasti contains guda, saindhavalavana, brihatsaindhavaditaila, chinchha and goarka. These drugs are laghu, agnivaradhaka, ushnavirya, kaphavatanashakaamahara. In this group also showed significant improvement and out of 20 patients, 2 patients (10%) showed marked improvement, 13 patients (65%) showed moderate improvement, 5 patients (25%) showed mild improvement and no patients showed no change.

4.3 Comparison of the effects of Group A and Group B

■ In churnabasti many drugs having deepana and pachana properties so most of the drugs work at the level of Agni. These drugs with its pachaka karma already formed ama is digested and with its deepana karma bring about agnideepana. Thus ama formation is prevented, which mainly occurs due to agnimandya. In Vaitaranabasti, it contains goarka and chinchha with predominant lekhana properties.

5. Conclusion

To know among which Group treatment procedure is more effective, the statistical analysis is done by using Friedmann's test for within group analysis and Mann Whitney test for between group analyses. The study reveals that in both Group A and Group B, therapy is effective. Clinical efficacy of group A with Churnabasti was found superior to group B with Vaitaranabasti. But statistically difference between the groups is not significant. It can be concluded that Amavata in the modern perspective can be correlated to Rheumatoid Arthritis. So both Churna and Vaitaranabasti possessing opposite qualities to ama can be considered as a good remedy in the management of the disease

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