

Role of *Shigru Twak Kwatha* in *Amavata*

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JISM1416H Received: May 25, 2013; Accepted: September 14, 2014



How to cite the article: Sadhana Misar(Wajpeyi), Role of *Shigru Twak Kwatha* in *Amavata*, *J-ISM*, V2 N3, July-September 2014, pp.132-138

Abstract

The main pathological factors in the development of this disease are *Ama* and *Vata*. Clinically it can be correlated to Rheumatoid Arthritis. Due to present lifestyle, prevalence of *Amavata* is increasing. The present study comprised of 60 patients, divided in three groups, each containing 20 patients, Group A (n=20) were given *Shigru Twak Kwath*, Group B (n=20) were given *Simhanad Guggul* and Group C (n=20) were given *Nimesulide* for one month. On analysis of the results, it was found that *Shigru Twak Kwath* provided better results as compared to *Simhanad Guggul* and *Nimesulide* in management of *Amavata*. The therapy with *Shigru Twak Kwath* not only helps in reducing the signs and symptoms of *Amavata* but also corrects the pathogenesis of *Amavata*. In conclusion comparison of therapies i.e. *Shigru Twak Kwath*, *Sinhanad Guggul* and tablet *Nimesulide* revealed that *Shigru Twak Kwath* in all respects proved to be a better choice in the treatment of *Amavata* patients.

Key words: s- *Amavata*, *Rheumatoid arthritis*, *Shigru Twak Kwath*, *Simhanad Guggulu*

Introduction

Amavata is a most common inflammatory arthritis.chronic inflammatory joint disease with multisystem involvement. It is supposed to be an incurable and one of the most crippling diseases. The main pathological factors in the development of this disease are *Ama* and *Vata*[1]. *Ama* is a *apakwa*, undigested and fermented *rasa dhatu* which is produced in the body due to *Agnimandya* [2,3]. This *Ama* circulates in the body and gets located in the *sandhies* (joints) causing pain, stiffness and swelling over the joints. Madhavkara was the first who described the etiology, pathogenesis, symptoms and types of ss for the term coined *Amavata*[4]. Clinically it can be correlated to *rheumatoid arthritis* which is a chronic inflammatory autoimmune

disease involving multiple joints. Due to present lifestyle sedentary lifestyle, prevalence of many diseases is increasing and *Amavata* is not an exception to this. *Rheumatoid arthritis* affects approximately 0.5 to 1% of the adult population worldwide. The figure of prevalence vary substantially ranging from 0.3% to 2.1% of the population[5]. All over the world an enormous amount of research work has been done [6 to 13]. Some effective drugs have also been searched but none of them can be considered as specific. In modern medicine the treatment of the disease includes steroids and immunomodulatory drugs along with non-steroidal anti-inflammatory drugs[14]. Long term use of these drugs have many adverse effects on the body and there is obvious need for effective

treatment for *Amavata*. In various *Ayurveda* literature like *Bhavaprakash*, *Shushrut Samhita*, *Vagbhat Samhita*, *Dhanvantari Nighantu* properties of *Shigru* have been described as *Deepan*, *Pachan*, *Shothahar* and *Shoolahara*. Treatment of *Amavata* according to *Ayurvedic Classics* is carried out as - *Langhan*, *Swedan*, *Tikta*, *Katu*, *Deepan Drugs*, *Virechan*, *Snehapan* and *Basti*[15]. Property of *Shigru* comprises of *Tikta*, *Katu Ras*, *Laghu*, *Ruksha Gun*, *Ushna*, *Virya*, *Nand*, *Katu*, *Vipaka Deepan*, *Pachan*, drug processing these properties is ideal in *Amavata*, and other *Vata Vyadhies*[16,17]. Hence present study was planned to evaluate and compare the efficiency and role of *Shigru Twak Kwath*, *Simhanad Guggul* and tablet *Nimesulide* patients in *Amavata*.

Material and Methods

The study was carried out at Department *Kayachikitsa*, *Vidarbha Ayurved Mahavidyalaya*, *Amravati*. Patients were selected randomly from *O.P.D.* as well as *I.P.D.* The study comprised of 60 patients, which were randomly divided in three groups Group A (n=20), Group B (n=20), Group C (n=20) were given *Shigru Twak Kwath*, *Simhanad Guggul* and tab *Nimesulide* respectively Group A patients were given *Shigru Twak Kwath* 100ml 3 times a day, Group B were given *Simhanad Guggul* 250mg 3 times a day, Group C were given *Nimesulide* tablet 100mg twice a day.

Group A=Patients were given *Shigru Twak Kwath* 100ml 3 times a day .

Group B=Patients were given *Simhanad Guggul* 250mg 3 times a day.

Group C=Patients were given *Nimesulide* tablet 100mg twice a day . All the patients were explained the purpose of the study, a proper consent of patient was obtained. Assessment of the progress of the disease was entered into specially prepared proforma.

Inclusion Criteria

The patients presenting with signs and symptoms as per *Madhav Nidana* were preferentially considered. The criteria set up by the

ARA 1988 were also taken into consideration as follows Morning stiffness lasting for >1 hour, Arthritis of three or more joints, Arthritis of hand joints, Symmetrical Arthritis, Presence of Rheumatoid nodules, Presence of Rheumatoid factors (RA factor), Radiological changes, Duration >=6 weeks, First four criteria must be present for duration of 6 weeks or more, Diagnosis of Rheumatoid arthritis was made with four or more criteria.[18]

Exclusion criteria:

Patients suffering from hypertension, diabetes mellitus, traumatic or infective joints, ischemic heart disease, tuberculosis and other systemic disorders,

Chronicity for more than 10 years, Having severe crippling deformity and

Irregular follow up were excluded.

Investigations:

All the patients were screened for investigations like Hb%, TLC, DLC, ESR, RA factor, urine routine examination, ASO titer before and after treatment. Observations were recorded in the tabular form and thereafter results were worked out.[19]

Preparation of *Shigru Twak Kwath*:

The *Shigru Twak Kwath* was prepared from fresh *Shigru* bark[20]. Prepared was given to the patients three times a day that is 8 hourly. Every time a fresh *Kwath* was prepared and was administered in lukewarm state.

Preparation of *Simhanad Guggul*:

Simhanad Guggul was prepared by the method given in *Ayurvedic Classics* [21]

Nimesulide is a non-steroidal anti-inflammatory drug of the sulphonamide class.[22]

Clinical Assessment

1)Joint pain -

In case of big joints of the lower limbs the patients were asked to walk. If not, asked to move the joint. For the joints of the upper limbs, patients were

asked whether they can work with the affected limb joints, if not, asked to move the joint. Grading of pain was done as follows :

1. Severe pain Pain so severe that patient could not move the joint at all.
2. Moderate pain Patient could not work or walk but some movement of joint was possible (movement was very painful)
3. Mild pain Patient could walk or work and the pain was bearable.

The severity of pain at “0” day was considered to be 100%. Then at 1st, 2nd, 3rd and 4th week the reduction of pain was noted as 25%, 50%, 75% and 100% reduction with reference to “0” day , as described by the patient.

2) Joint Tenderness

Joint tenderness was recorded with the help of sphygmomanometer and a 10 ml. syringe. The sphygmomanometer cuff was removed and the nozzle of the syringe, the piston fully withdrawn till the graduated marking was connected to the tubing of the sphygmomanometer (mercury column).

The point over the affected joint which was most tender was selected and the particular joint tested was noted in the case sheet of the patient. The base of the piston of the fully withdrawn syringe was kept on the selected tender point and the barrel was pushed against the joint as a result this causes pressure over the affected joint and patient starts feeling pain as the pressure is increased. At the same time the air in the syringe raises the mercury column in the sphygmomanometer. The sphygmomanometer reading where the patient starts, feeling pain was recorded. As it signifies initiation of tenderness such 3 readings were taken at the same point in the same joint in one sitting. Average of the three was recorded in the case sheet of the patient. The test was carried out in the same joint after completion of the treatment.

3) Grip Power

This is useful to assess the functional power

of wrist and smaller joints of the hands. For this the patient is asked to press the inflated cuff of sphygmomanometer with one hand at a time. Reading was taken before treatment (0'day) , 1st week , 2nd week, 3rd week , 4th week. When after treatment the reading was increased by +10 mm Hg a power of wrist and smaller joints was considered to be improved.

4) Morning Stiffness

Morning stiffness was assessed by asking the patient to walk fixed distance (50 feet) and the time was noted in seconds. Reading was taken before treatment (0'day) , 1st week, 2nd week, 3rd week, 4th week. It was considered to be improved. When there was decrease in time for at least 5 sec. after the treatment.

5) Joint Swelling

The measurement of the joint swelling was done on the first visit of the patient. The circumference of the affected joint was measured in the centimeters at the broadest part. After 1st, 2nd, 3rd and 4th week the same joint was measured at the same broadest part. The percent reduction of swelling was calculated.

6) Range of Movement

This was estimated by measuring the degree of limitation based on comparison with the normal joint. In this active as well as passive movements were recorded. For actual range of movement “Goniometer” can be used.

7) Local temperature of Joint

This was done by feeling the temperature of normal part and soon after the affected part with the help of dorsum of the hand. It was labeled either normal or raised.

8) Pressing power

This is useful to assess the functional states of shoulder, elbow and wrist joint. For this the patient was asked to press the inflated cuff of sphygmomanometer by both hands. Readings were taken before treatment (0'day) , 1st week, 2nd week, 3rd

week, 4th week. It was considered to be improved when increased by +10 mm of Hg.

Statistical methods used

The obtained information was analyzed statistically. Student's paired 't' test was applied to assess the statistical significance of results of different therapies before and after treatment. The level of statistical significance was judged as per the 'p' values as given below

- a) $p \geq 0.05$ Not significant
- b) $p < 0.05$ significant
- c) $p < 0.01$ highly significant

Result

Table 1 shows effect of different parameters like joint swelling, tenderness, grip power, pressing power & walking time. It is seen that Group A is showing highly significant effects on all parameters.

Table 2 is showing comparative percent relief (No. of patients) in signs & symptoms. Group A is seen to have about 80-90% relief in all symptoms as against Group B & C.

DISCUSSION

The basic pathology in the *Amavata* is the formation of *Ama* in the body due to *Agnimandya* followed by vitiation of all the three *Doshas*, predominantly *Vata* [23]. *Shigru has Katu Tikta Rasa, Laghu Ruksha Guna, Ushna Virya, Katu Vipaka, Deepan, Pachan, Shothahar and Shulahar* properties, hence it has *Amapachan, Vata Kapha Shamaka, Strotoshodhaka* properties which help in breaking pathogenesis of *Amavata* [24 to 29]. Due to *Agnivardhak* property it corrects *Agnimandya*. It also digests *Amarasa* and reduces excessive *Kapha*, removing the obstruction of *Strotasas*. *Lekhana Karma of Laghu, Ruksha Guna and Tikta Ras* removes the adhered *Doshas* from *Dushita Strotas* [30].

Out of 60 patients studied, the maximum no. of patients (53.33%) belonged to 30-40 yrs. of age group. It was more frequently observed in females (65%)[31]. It was observed that urban population was

more affected (63.33%), maximum patients (73.33%) were from middle socioeconomic group. Maximum no. of patients (55%) were having *Vatakaphaja prakruti* and *Mandagni* (65%). It was found that in Group A 11 patients (55%) got 50% relief from severe pain whereas in Group B and C, 9 patients (45%) and 12 patients (60%) got relief from severe pain. Reduction of local temperature temp. of joints was better with Group A than Group B and C. The improvement in range of joint movement was more in Group A (65%) than Group B (30%) and Group C (60%). Joint swelling revealed that Group A had highly significant 't' (5.36) and 'p' ($p > 0.01$) values as against moderately significant values found in Group C ($t=2.63$ and $p < 0.05$) and non significant values ($t=2.06$ and $p \geq .05$) found in Group B. Grip power results showed highly significant values ($t=4.2$ and $p < 0.01$) in Group A than Group B ($t=2.01$ and $p \geq 0.05$) and Group C ($t=2.95$ and $p < 0.05$). Pressing power results showed highly significant values in Group A ($t=5.51$ and $p < 0.01$) and Group C ($t=4.16$ and $p < 0.01$) and non significant values in Group B ($t=2.5$ and $p > 0.05$). Walking time assessment for lower limb joints 't' and 'p' values were highly significant in Group A ($t=5.49$ and $p < 0.01$), significant in Group C ($t=2.81$ and $p < 0.05$) and non significant in Group B ($t=2.00$ and $p \geq 0.05$).

Mean Hb% improvement was more than 1 gm% as compared to 0.05 gm% and 0.04 gm% mean rise in Group B and Group C respectively. Measurable fall in ESR (Mean 20 mm/hr.) was seen in Group A indicating good prognosis with its undoubted anti inflammatory property. RA test response was non conclusive in all the three groups because of shorter duration of treatment. ASO titer was not found positive in this study. Out of the symptoms studied i.e. *Aruchi, Agnimandya, Trishna, Alasyam, Gauravam, Jwar, Apak, Angamarda, Sandhishotha, Sandhishool, Sandhigraha, Bahumutrata, Nidraviparya,*

Malavaddhata, etc. in the *Shigru Twak Kwata* group percent relief (no. of patients) in signs and symptoms was highest about 80-90% whereas in Group C it was 60-70%.

Shigru is freely available everywhere at no cost. It can be also stated that *Shigru Twak Kwath* has negligible side effects as compared to those of tablet Nimesulide such as nausea, gastric irritation, vomiting, peptic ulceration, hypersensitivity, etc.[32]. It is further recommended that long term studies will confirm the efficacy of *Shigru Twak Kwath* over Nimesulide in respect to the recurrence of the disease after stoppage of treatment and prevention of long term complications of *Amavata* such as deformities, renal and respiratory complications. The therapy with *Shigru Twak Kwath* not only helps in reducing the signs and symptoms of *Amavata* but also corrects the pathogenesis of *Amavata*.

Conclusion:

In conclusion comparison of therapies i.e. *Shigru Twak Kwath*, *Sinhanad Guggul* and tablet Nimesulide revealed that *Shigru Twak Kwath* in all respects proved to be a better choice in the treatment of *Amavata* patients.

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1 : Effects of different Parameters Before treatment (B.T.) and After treatment (A.T.) with their 't' and 'p' values

Parameters	Group A					Group B					Group C				
	B.T.	A.T.	D	t	p	B.T.	A.T.	d	t	p	B.T.	A.T.	d	t	P
1 Swelling in cms (Mean +/- SEM)	18.3 ± 0.74	16.1 ± 0.78	2.2 ± 0.41	5.36	P<0.01	18.1 ± 0.65	17.3 ± 0.76	0.8 ± 0.38	2.06	p=0.05	17.9 ± 0.65	16.9 ± 0.47	1 ± 0.38	2.63	P<0.05
2 Tenderness in mm of Hg(mean)	60.7 ± 2.96	74.9 ± 4.39	14.2 ± 2.56	5.54	P<0.01	54.9 ± 3.78	63.1 ± 4.75	8.2 ± 2.41	3.40	p=0.05	61.7 ± 3.81	71.7 ± 3.62	9.4 ± 2.45	3.83	P<0.05
3 Grip Power in mm of Hg(mean)	28.72 ± 1.18	36.63 ± 1.61	4.9 ± 1.15	4.2	P<0.01	31.16 ± 1.58	32.5 ± 1.5	1.33 ± 0.66	2.01	p=0.05	31.4 ± 1.68	35 ± 2.35	3.6 ± 2.35	2.95	P<0.05
4 Pressing Power in mm of Hg(mean)	39.6 ± 0.74	46 ± 1.26	6.4 ± 1.16	5.51	P<0.01	40 ± 1.15	43.33 ± 0.66	3.33 ± 1.33	2.5	p=0.05	38.66 ± 1.76	46 ± 1.15	7.33 ± 1.76	4.16	P<0.05
5 Walking Time in Sec.(mean)	25 ± 0.7	20 ± 0.81	5 ± 0.81	5.49	P<0.01	23.6 ± 1.28	21.8 ± 1.74	1.8 ± 0.91	2	p=0.05	24 ± 0.53	21.57 ± 0.09	2.42 ± 0.86	2.81	P<0.05

Table 2 : Comparative effects of the three drugs on different signs and symptoms in Amavata in the studied groups

Signs & Symptoms	Group A			Group B			Group C		
	B. T. (no of pts.)	A.T. (no of pts)	% relief (no of pts)	B. T. (no of pts.)	A.T. (no of pts)	% relief (no of pts)	B. T. (no of pts.)	A.T. (no of pts)	% relief (no of pts)
1 Aruchi	18	3	83.33%	17	5	70.58%	19	4	78.94%
2 Agnimandya	20	3	85%	19	4	78.94%	18	4	77.77%
3 Trishna	14	2	85.74%	12	5	58.33%	14	4	71.42%
4 Alasyam	19	4	78.94%	18	6	66.66%	17	5	70.58%
5 Gauravam	16	3	81.25%	15	5	66.66%	17	4	76.47%
6 Jwar	18	0	100%	14	3	78.75%	16	0	100%
7 Apak	17	2	88.23%	18	4	77.77%	19	4	78.94%
8 Angamarda	19	3	84.21%	18	8	55.55%	18	4	77.77%
9 Sandhishoth	20	7	65%	20	12	40%	20	8	60%
10 Sandhishool	20	1	95%	20	6	70%	20	2	90%
11 Sandhigraha	20	7	65%	20	14	30%	20	9	55%
12 Bahumutrata	6	2	66.66%	5	3	40%	4	2	50%
13 Nidraviparya	16	4	75%	15	5	66.66%	14	4	71.42%
14 Malabaddhata	10	2	80%	16	2	66.66%	8	4	50%

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