Original Research Article

Clinical Study on the Efficacy of *Rasna Sunthi Churna* in the Management of *Amavata*

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ABSTRACT

Ama when combines with the *Doshas* and spreads all over the body it produces the symptoms *Angamarda* (Bodyache), *Aruchi* (Anorexia), *Trishna* (Thirst), *Alasya* (Lethargy), *Jwara* (Fever) *Apaka*(Indigestion), *Shunata*(swelling), *Sandhishula* (pain in joints), *Stambha* (Stiffness). The sign and symptoms of *Amavata* more or less resemble with symptoms of Rheumatoid Arthritis such as pain, stiffness, swelling of small and large joints, lethargy. *Ayurveda* advocates range of *Agni Vardhaka Chikitsa*. *Chakradatta* has described use of *Tikta Katu* and *Dipana Dravya* in *Amvata* management. *Rasna* and *Shunthi* have *Katu, Tikta Rasa, Guna, Ushna Virya* and *Katu (Rasna)* and *Madhura (Shunthi) Vipaka* which can be used in *Amavata* management. 15 patients were given the combination of *Shunthi* powder (1gm) and *Rasna* powder (3 gms) daily for the total trial period of three months. All the cases were followed up at the interval of 1 month for total 3 months duration. *Rasna* and *Sunthi Churna* was effective in majority of the symptoms of *Aamvata* and it can be used in the chronic as well as acute patients of *Amavata*.

Key Words: *Amavata*, Rheumatoid Arthritis, *Rasna, Shunthi*

INTRODUCTION

Amavata word is composed of two words *Ama* and *Vata*. *Ama*[1] refers to the events that follow and the factors that arise as a consequence of impaired functioning of *'Agni'* whereas in literal terms the word '*Ama'* means unripe, immature and undigested. This '*Ama'* is then carried by '*Vayu'* and travels throughout the body and accumulates in the joints, at different sites. *Ama* when combines with the *Doshas* and spreads all over the body it produces the symptoms *Angamarda* (Bodyache), *Aruchi* (Anorexia), *Trishna* (Thirst), *Alasya* (Lethargy), *Jwara* (Fever) *Apaka* (Indigestion), *Shunata* (swelling), *Sandhishula* (pain in joints), *Stambha* (Stiffness) [2]. *Amavata* is one of the common disease in the present era, which is mainly induced due to the improper food and life style. The sign and symptoms of *Amavata* more or less resemble with symptoms of RA such as pain, stiffness, swelling of small and large joints, lethargy. Rheumatoid Arthritis (RA) is a chronic systemic inflammatory joint disease which is one of the common debilitating disease. RA is a symmetrical, destructive and deforming polyarthritis affecting multiple small and large synovial joints [3]. The disease starts most commonly between the third and fifth decades but observational study reveals that disease can starts in any age group [3]. The disease prevalence worldwide is approximately 0.8% of the population [4]. The exact cause of rheumatoid arthritis is still unknown but most theories to date either advocate an autoimmune mechanism or an infectious agent which indirectly caused by erroneous

life style. Ancient *Acharyas* of *Ayurveda*[5] have described sequential employment of *Deepana, Pachana, Shodhana* and *Shamana* therapies in the management of *Amavata*. *Ayurveda* advocates range of *Agni Vardhaka Chikitsa*. *Chakradatta*[6] has described use of *Tikta Katu* and *Dipana Dravya* in *Amvata* management. *Rasna* and *Shunthi* have *Katu, Tikta Rasa, Guna, Ushna Virya* and *Katu (Rasna)* and *Madhura (Shunthi) Vipaka* which can be used in Amavata management. Many research works have been conducted already in the search of effective management of *Amavata* but safe, effective and without adverse effect treatment is still not available for management of *Amavata*. The present study was conducted to study the effect of *Shunthi* and *Rasna Churna* in the management of Rheumatoid Arthritis (*Amavata*).

MATERIAL AND METHODS

A total 15 patients of *Amavata* were randomly selected for the present study, from the *Kayachikitsa* OPD and IPD of Sir Sunder Lal Hospital, Institute of Medical Sciences, Banaras Hindu University, Varanasi between 2010-2011 regardless of age, sex, occupation and socio-economic conditions. Both acute and chronic phase of *Amavata* patients were taken for the study, following the criteria of the diagnosis of rheumatoid arthritis (1987 revised criteria by American college of Rheumatology)[7] for diagnosis of Rheumatoid arthritis in Modern Medicine and the clinical features of *Amavata* described in *Madhava Nidana*. Cases of *Amavata* / Rheumatoid Arthritis between the age 15 years- 60 years willing to participate were included in the clinical study. Patient complicated with anemia and deformities, suffering from DM, HTN, Tuberculosis, Asthma and other diseases, Pregnant and lactating women and Patient discontinuing the trial drug with or without information were excluded. Study of symptomatology of *Amavata* was done apart from modern clinical features. *Angmarda* (Bodyache), *Aruchi* (Loss of Apetite), *Trishna* (Thirst), *Alasya* (Lack of enthusiasm), *Gaurav* (Heaviness), *Apaka* (Indigestion), *Shuntaganam* (Swelling of the body), Pain, Joint swelling, Tenderness and Morning Stiffness were taken in consideration. Patient's general physical condition, pulse rate, blood pressure, pallor, icterus, cyanosis, lymphadenopathy, thyroid status, Systemic Examination of G.I.T., cardiovascular system, respiratory system, central nervous system, urogenital system and locomotor system were undertaken to rule out any other pathology. Some special tests like walking time, grip power of hands were also done to assess the functional ability of the joints. All these were recorded at each successive follow ups and taken as the criteria for improvement of the patients of *Amavata*.

Walking time: The walking time taken by the patients for a fixed distance was observed and recorded to know the time consumed to cross the fixed distance. This test provides functional status of hip, knee, ankle and smaller joints of the lower limbs. In the present study a distance of 20 meters was fixed for the purpose, and grading was given:
- 0 =20-30 sec
- 1 = 30-40 sec
- 2 = 40-50 sec
- 3 = 50-60 sec
- 4= > 60 sec

Grip power: The functional status of wrist joints, metacarpophalangeal joints and interphalangeal joints was assessed by measuring grip power. For this Grip power test, patients were asked to grip the inflated cuff of a sphygmomanometer by both palms and fingers separately and the rise of manometer readings was recorded in mmHg of mercury at the time of registration and follow ups of the patients of Amavata. In the test the cuff of sphygmomanometer was inflated up to basal value of 30 mm of Hg.
- 0 = > 190 mmHg
- 1 =150-190 mmHg
- 2 =110-150 mmHg

- 3 =70-110 mmHg
- 4= < 70 mmHg

Investigation Erythrocyte Sedimentation Rate, C-Reactive Protein (C-RP titre), Rheumatoid factor (RA titre) and Anti-CCP were taken in consideration.

15 patients were given the combination of *Shunthi* powder (1gm) and *Rasna* powder (3 gms) daily for the total trial period of three months. All the cases were followed up at the interval of 1 month for total 3 months duration. The data collected and compiled from this clinical trial were sorted out and processed further by subjection to varied statistical methods using statistical software SPSS (Version 16.0) for various sign and symptoms.

RESULTS

Table No 1. Changes in bodyache

Grading	Bodyache								Within the group comparison Friedman test
	BT		F1		F2		F3		
	No.	%	No.	%	No.	%	No.	%	
0	0	0.0	0	0.0	0	0.0	4	26.7	$\chi 2 = 23.593$
1	3	20.0	5	33.3	5	33.3	5	33.3	$p<0.001$
2	7	46.7	7	46.7	8	53.3	3	20.0	
3	3	20.0	2	13.3	1	6.7	2	13.3	
4	2	13.3	1	6.7	1	6.7	1	6.7	

There was highly significant difference from base line to 3rd follow up i.e., completion of the therapy. ($p <0.001$)

Table No 2. Changes in Apetite

Grading	Loss of Taste								Within the group comparison Friedman test
	BT		F1		F2		F3		
	No.	%	No.	%	No.	%	No.	%	
0	7	46.7	7	46.7	7	46.7	8	53.3	$\chi 2 = 10.412$
1	4	26.7	5	33.3	6	40.0	6	40.0	$p<0.02$
2	3	20.0	2	13.3	2	13.3	1	6.7	
3	1	6.7	1	6.7	0	0.0	0	0.0	
4	0	0.0	0	0.0	0	0.0	0	0.0	

There was significant difference from base line to 3rd follow up i.e., completion of the therapy.

Table No 3. Changes in thirst

Grading	Thirst								Within the group comparison Friedman test
	BT		F1		F2		F3		
	No.	%	No.	%	No.	%	No.	%	
0	14	93.3	15	100.0	15	100.0	15	100.0	$\chi 2 = 3.000$
1	1	6.7	0	0.0	0	0.0	0	0.0	$p>0.05$
2	0	0.0	0	0.0	0	0.0	0	0.0	
3	0	0.0	0	0.0	0	0.0	0	0.0	
4	0	0.0	0	0.0	0	0.0	0	0.0	

There was significant difference from base line to 3rd follow up i.e. completion of the therapy.

Table No 4. Changes in lack of enthusiasm

Grading	Lack of Enthusiasm								Within the group comparison Friedman test
	BT		F1		F2		F3		
	No.	%	No.	%	No.	%	No.	%	
0	0	0.0	4	26.7	6	40.0	7	46.7	$\chi 2 = 39.099$
1	2	13.3	4	26.7	6	40.0	7	46.7	$p<0.001$
2	5	33.3	5	33.3	2	13.3	1	6.7	
3	5	33.3	1	6.7	1	6.7	0	0.0	
4	3	20.0	1	6.7	0	0.0	0	0.0	

There was highly significant difference from base line to follow up.

Table No 5. Changes in heaviness

Grading	Heaviness								Within the group comparison Friedman test
	BT		F1		F2		F3		
	No.	%	No.	%	No.	%	No.	%	
0	0	0.0	3	20.0	4	26.7	5	33.3	$\chi2 = 32.944$
1	5	33.3	4	26.7	6	40.0	7	46.7	$p<0.001$
2	6	40.0	5	33.3	4	26.7	3	20.0	
3	3	20.0	3	20.0	1	6.7	0	0.0	
4	1	6.7	0	0.0	0	0.0	0	0.0	

There was highly significant difference from base line to 3rd follow up

Table No 6. Changes in indigestion

Grading	Indigestion								Within the group comparison Friedman test
	BT		F1		F2		F3		
	No.	%	No.	%	No.	%	No.	%	
0	0	0.0	1	6.7	4	26.7	6	40.0	$\chi2 = 39.714$
1	3	20.0	4	26.7	6	40.0	6	40.0	$p<0.001$
2	5	33.3	5	33.3	4	26.7	3	20.0	
3	6	40.0	5	33.3	1	6.7	0	0.0	
4	1	6.7	0	0.0	0	0.0	0	0.0	

There was highly significant difference from base line to 3rd follow up i.e. completion of the therapy in group B and C ($p<0.001$) whereas significant difference seen in group A ($p<0.01$).

Table No 7. Changes in swelling of the body

Grading	Swelling of the Body								Within the group comparison Friedman test
	BT		F1		F2		F3		
	No.	%	No.	%	No.	%	No.	%	
0	0	0.0	0	0.0	0	0.0	2	13.3	$\chi2 = 33.991$
1	2	13.3	4	26.7	5	33.3	9	60.0	$p<0.001$
2	6	40.0	5	33.3	8	53.3	3	20.0	
3	4	26.7	5	33.3	1	6.7	1	6.7	
4	3	20.0	1	6.7	1	6.7	0	0.0	

There was highly significant difference from base line to 3rd follow up i.e. completion of the therapy in all the three groups ($p<0.001$).

Table No 8. Changes in pain

Grading	Pain								Within the group comparison Friedman test
	BT		F1		F2		F3		
	No.	%	No.	%	No.	%	No.	%	
0	0	0.0	0	0.0	0	0.0	5	33.3	$\chi2 = 32.231$
1	3	20.0	5	33.3	5	33.3	5	33.3	$p<0.001$
2	6	40.0	5	33.3	6	40.0	5	33.3	
3	4	26.7	4	26.7	3	20.0	0	0.0	
4	2	13.3	1	6.7	1	6.7	0	0.0	

There was highly significant difference from base line to 3rd follow up i.e. completion of the therapy in all the three groups ($p<0.001$).

Table No 9. Changes in joint swelling

Grading	Joint Swelling								Within the group comparison Friedman test
	BT		F1		F2		F3		
	No.	%	No.	%	No.	%	No.	%	
0	0	0.0	0	0.0	0	0.0	2	13.3	$\chi2 = 30.034$
1	3	20.0	3	20.0	4	26.7	7	46.7	$p<0.001$
2	7	46.7	8	53.3	9	60.0	6	40.0	
3	4	26.7	3	20.0	2	13.3	0	0.0	
4	1	6.7	1	6.7	0	0.0	0	0.0	

There was highly significant difference from base line to 3rd follow up i.e. completion of the therapy in all the three groups ($p<0.001$).

Table No 10. Changes in tenderness

Grading	Tenderness								Within the group comparison Friedman test
	BT		F1		F2		F3		
	No.	%	No.	%	No.	%	No.	%	
0	0	0.0	0	0.0	0	0.0	5	33.3	$\chi^2 = 39.231$ p<0.001
1	3	20.0	5	33.3	5	33.3	5	33.3	
2	6	40.0	5	33.3	6	40.0	5	33.3	
3	4	26.7	4	26.7	3	20.0	0	0.0	
4	2	13.3	1	6.7	1	6.7	0	0.0	

There was highly significant difference from base line to 3rd follow up i.e. completion of the therapy (p<0.001).

Table No 11. Changes in morning stiffness

Grading	Morning Stiffness								Within the group comparison Friedman test
	BT		F1		F2		F3		
	No.	%	No.	%	No.	%	No.	%	
0	0	0.0	0	0.0	0	0.0	5	33.3	$\chi^2 = 39.231$ p<0.001
1	3	20.0	5	33.3	5	33.3	5	33.3	
2	6	40.0	5	33.3	6	40.0	5	33.3	
3	4	26.7	4	26.7	3	20.0	0	0.0	
4	2	13.3	1	6.7	1	6.7	0	0.0	

There was highly significant difference from base line to 3rd follow up i.e. completion of the therapy in all the three groups (p<0.001).

Table No 12. Changes in walking time

Grading	Walking Time								Within the group comparison Friedman test
	BT		F1		F2		F3		
	No.	%	No.	%	No.	%	No.	%	
0	6	40.0	6	40.0	10	66.7	14	93.3	$\chi^2 = 22.855$ p<0.001
1	4	26.7	8	53.3	4	26.7	1	6.7	
2	4	26.7	0	0.0	1	6.7	0	0.0	
3	0	0.0	1	6.7	0	0.0	0	0.0	
4	1	6.7	0	0.0	0	0.0	0	0.0	

There was highly significant difference from base line to 3rd follow up i.e. completion of the therapy in all the three groups (p<0.001).

Table No 13. Changes in grip power

Grading	Grip Power								Within the group comparison Friedman test
	BT		F1		F2		F3		
	No.	%	No.	%	No.	%	No.	%	
0	4	26.7	5	33.3	12	80.0	15	100.0	$\chi^2 = 28.516$ p<0.001
1	7	46.7	9	60.0	2	13.3	0	0.0	
2	3	20.0	0	0.0	1	6.7	0	0.0	
3	0	0.0	1	6.7	0	0.0	0	0.0	
4	1	6.7	0	0.0	0	0.0	0	0.0	

There was highly significant difference from base line to 3rd follow up i.e. completion of the therapy in all the three groups (p<0.001).

Table No 14. Changes in AntiCCP

Mean ± S.D.		Within the group comparison Paired t-test BT-AT
BT	F1	
28.33 ± 8.550	18.33 ± 1.447	10.00±8.401 t=4.610 p<0.001

Mean decrease in Anti CCP was statistically significant.

Table No 15. Changes in ESR

Mean ± S.D.		Within the group comparison Paired t-test BT-AT
BT	F1	
31.00 ± 14.682	18.00 ± 2.449	13.000±13.596 t=3.703 p<0.01

Mean decrease in ESR was statistically significant (p<0.01).

Table No 16. Changes in RF in (Rheumatoid arthritis)

Mean ± S.D.		Within the group comparison
BT	F1	Paired t-test BT-AT
21.67 ± 7.058	15.73 ± 2.40	χ2 = 5.933 ± 5.970 t=3.849 p<0.01

Mean decrease RF was statistically significant (p<0.01).

Table No 17. Changes in CRP

Mean ± S.D.		Within the group comparison
BT	F1	Paired t-test BT-AT
13.60 ± 5.08	9.93 ± 2.49	χ2 = 3.67 ± 3.74 t=3.80 p<0.01

Mean decrease CRP was statistically significant (p<0.01).

DISCUSSION

The percentage of patients with total improvement (no symptoms remaining) in the symptoms of *Amavata* bodyache, loss of taste, thirst, lack of enthusiasm, heaviness, indigestion, swelling of the body, pain, joint swelling, tenderness, morning stiffness were 26.7%, 53.3%, 100.0%, 46.7%, 46.7%, 33.3%, 40.0%, 13.3%, 33.3%, 13.3%, 33.3% and 33.3% respectively after the three months therapy. The percentage of patients with total improvement in the clinical examinations Walking time, Grip power was 93.3% and 100.0% after the three months therapy. Trial drugs used in the therapy of *Amavata* were having *Katu, Tikta Rasa* and *Ushna Virya*. They also possessed *Agni Dipana* and *Ama Pachana Karma. Acharya Charaka* describes that *Katu* drugs are *Vayu Agni Pradhana* carring the properties of *Vaktrasodhana, Agnideepana, Bhuktahara Soshana* helps to destroy *Ama*. By virtue of their *Laghu, Ushna* and *Sukshma Guna* pacify *Kapha Dosha*. Further, *Tikta Rasa* was having predominacy of *Vayu* and *Akash Mahabhuta* are opposite character to that of *Ama. Tikta Dravya* also posseses *Lekhana, Deepana, Pachana Vishaghna*, *Arochakaghna* properties. Therefore they are preferable in regimen for the treatment of *Amavata. Charaka* indicates the *Vishagna* property of *Tikta Rasa.* As *Mandagni* is one of the primary and major aetological factors in *Amavata, Deepana* drugs should used to potentiate the *Agni.* They usually carry *Tikshna, Ushna, Laghu, Agneya* properties which act on *Ama & Rasa Dusti.* The drugs which help to potenfiate *Antaragni* is considered a *Deepana* drugs. Finally we can conclude that by the combined actions of *Katu Tikta Rasa, Ushna Virya* and *Deepana Pachana Karma* of the prescribed drug, there was significant reduction in the symptoms of *Amavata.*

CONCLUSION

On the basis of observations and the results of this study it can be concluded that effect of *Rasna* and *Shunthi Churna* was effective in majority of the symptoms of *Aamvata.* There was neither any side effect produced nor any unwanted effect observed during the trial drug. The general digestion was found to be good with the Trial drug & Total *Ayurvedic* regime & simultaneously quality of life was also improved. *Rasna & Shunthi Churna* can be used in the chronic as well as acute patients of *Amavata.*

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