



Research Article

EVALUATE THE EFFICACY OF *KSHARA BASTI* AND *SUNTHI-GUDUCHI CHURNA* IN *AMAVATA* (RHEUMATOID ARTHRITIS)- A CLINICAL STUDY

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ABSTRACT

Amavata is a *Rasa Pradosaja Vikara* with two major pathogenic factors *Ama* and *Vata*, which mainly affect *Sandhi* followed by *Asthi* and *Majja*. The symptoms of *Amavata* are identical to Rheumatoid Arthritis, a chronic inflammatory polyarthritis affecting multiple systems. 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, 100 patients were selected for Open Random trial and applied *Kshara basti* followed by oral *Sunthi- Guduchi churna* for 2 month for the management of *Amavata*. In disease active stage of *Amavata* synovial stromal-immune cell interactions lead to reciprocal metabolic changes that again potentiate the inflammatory response. Here we can understand the metabolic and cellular pathology during active stage of disease. Hence, metabolic reprogramming could represent a new therapeutic strategy for patients with RA, where our *Basti* therapy followed by *Rasayana* must have a great role. For the study collected data was distributed according to age, sex and *Prakruti*, and a paired t-test was applied for the clinical assessment of the subjective and objective parameters of *Kshara basti* followed by *Sunthi guduchi churna* in *Amavata* management and it has shown significant reduction in the *Sandhi shool* according to VAS scale ($t > 23.42$ at the 0.001% level), *Sandhi sotha* ($t > 24.35$, at the 0.001% level), *Sandhi Stabdhata* ($t > 20.58$ at the 0.001% level), CDAI score ($t > 27.11$ at the 0.001% level) ANA score ($t > 53.23$, at the 0.001% level), and for 1st 15 days ESR changes is not significant at $t < 1.00$ but after completion of treatment significant results was observed. By analysing statistical data with paired t test it reveals that 58% had major improvement followed by 37% had minor improvement and 5% of patients who had no improvement.

INTRODUCTION

Amavata is one of the crippling diseases claiming the most common inflammatory arthritis. Manda *Agni* (metabolic abnormality) in both *Jatharagni* and *Dhatwagni* level is the main stimulator for *Amavata*. It was first mentioned as a separate disease in *Madhavakar*.^[1]

Symptoms of *Amavata* were closely similar with Rheumatoid Arthritis. [2] RA is chronic inflammatory disease characterized by inflammation of synovium of multiple joints. The synovitis of joints for long time leads to the damages of bones and cartilages. These damages can cause significant disability and even permanent loss of function due to erosion of bone surface, if left untreated. It is triggered when disease remains in active stage. So main aim of treatment is to achieve remission or reduces the disease activity to prevent further destruction. Thousands of research work done on *Amavata* and millions done on RA. But due to complex etiopathogenesis, immunological complexity, its root

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cause is still unknown, so specific treatment is yet to discover. Several researches had highlighted the interplay between metabolism, immunity and inflammation. In modern research it is said that metabolic reprogramming and cellular repairing could be a new hope for therapeutic strategy in RA. From here we see the importance of *Basti* therapy and *Rasayana Aushudhi* in RA. In Ayurveda, *Basti* therapy is considered as *Ardha chikitsa*, and supreme among all *Sothana* therapy.^[3] After *Sodhan* when *Rasayan Ausadhi* with *Amapachak* property given, it act more effectively. By considering this fact my study was conducted.

AIM AND OBJECTIVE

Aim: To evaluate the efficacy of *Kshara Basti* and *Sunthi-guduchi churna* in *Amavata*

Objective

1. Clinical Study to evaluate the efficacy of *Kshara Basti* and *Sunthi-guduchi churna* in *Amavata* for symptomatic relief.
2. To evaluate the efficacy of *Kshara Basti* and *Sunthi-guduchi churna* in *Amavata* to find out serological evidences.

MATERIAL AND METHOD

Reference of Trial Drug

- *Kshara Basti* is mentioned in, *Chakradutta, Amavata chikitsa, sloka 1.*
- *Sunthi Guduchi Churna* for *Amavata* mentioned in *Bhavaprakas, ch 26/44, Amavatadhikara.*^[4]

Source of Drug Formulation

Drugs are collected locally and identify by the *Dravya guna* department, GACH.

Sunthi- Guduch Churna was prepared in the state Ayurvedic Pharmacy, Govt. Ayurvedic College & Hospital and mixed in the ratio of *Sunthi: Guduchi= 1:3*

Materials to prepare *Kshara Basti*^[5]

Imli (Amlika)- 2 Pala (approx. 100gm)

Guda - 2 Pala (approx. 100gm)

Saindhava Labvan - 1 Aksha (10gm)

Gomutra - 8 Pala (approx. 400gm)

Sauf (Satapuspa) - 1 Aksha (approx. 10gm)

**Due to poor tolerance capacity of patient the dose of *Kshara basti* are reduces to half.

Phase 1

Prior to Starting Trial

- After approval of synopsis and clearance from ethical committee drug was prepared in State Ayurvedic Pharmacy, GACH.
- A sample was send in Drug Testing Laboratory- Physical evaluation of drug was done and no heavy metals or toxicity was observed.

- Before enrolling patient for my study, clinical trial registration was done for this study and my CTRI trial number was: CTRI/2021/09/036695.
- It is a single arm random open clinical study with sample size 100.
- Registration of 108 cases was done in the OPD/IPD of the department of *Kayachikitsa*, GACH, 8 of them are drop out so excluded for the study.
- The detailed research Performa was prepared incorporating all the clinical features of *Amavata* and assessment criteria from synopsis mentioned for statistical analysis of the study.
- Before administration of trial drug in patient, signature in consent form was taken.
- All patient taken after considering inclusion and exclusion criteria

Inclusion Criteria

1. Patient with classical features of *Amavata*.^[6]
2. The patients who were fulfilling 2020 ACR/EULAR classification for rheumatoid arthritis.^[7]
3. Rheumatoid factor positive and negative both cases were included.
4. Age: from 16 years to 65 years.

Exclusion Criteria

1. Chronicity of more than 10 years.
2. Having severe deformity.
3. Having cardiac disease, pulmonary tuberculosis & pregnancy.
4. Age less than 16 years and more than 65 years.
5. Complicated diabetic mellitus.
6. Malignancy, anorectal disease like bleeding haemorrhoid, fistula etc.
7. Ankylosing spondylitis
8. Arthritis due to other causes; e.g, rheumatic arthritis, septic arthritis, osteoarthritis, gouty arthritis etc.

Phase 2

Clinical Study Design

- Patients were selected for trial according to Inclusion and exclusion criteria.
- *Deepan- Pachan* with *Panchakola Churna* for 3 days prior to *Basti* therapy was given initially.
- *Nitya Virechana* given for 3 days for *Kostha suddhi* with *Triphala kasaya* 50ml+ *Guduchi kasayam* 50ml+ *Eranda taila* 10ml.
- From 5th day *Basti* therapy was started, *Sthanik abhyanga* with *Dasamool taila* and *Nadi swedan* with *Dasamool Kwatha* will be given before *Basti* therapy.
- *Kala basti* from 5th day with *Kshara basti* and *Saindhavadi Anuvasan Basti* given

- After *Samsarjana Karma* oral *Sunthi Guduchi churna* given as 4gm/day in two divided doses with lukewarm water as *Anupana* for 2 month and three follow up done according on 15th, 30th and 60th day.

Laboratory Investigation

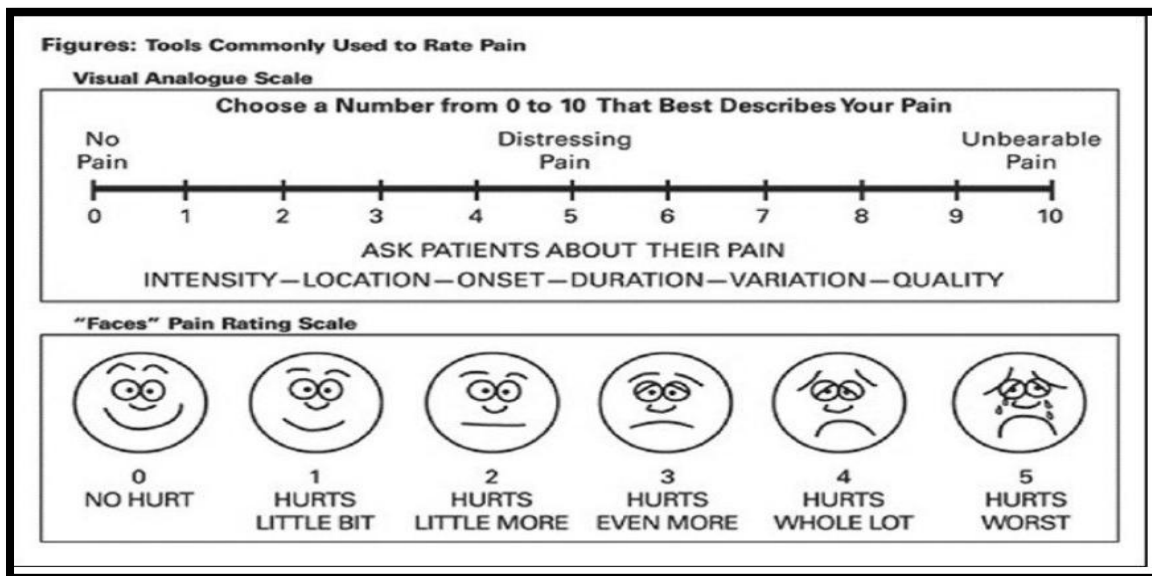
1. Haematological Investigations: Blood RE
2. Biochemical Examinations
 - Blood Sugar - Fasting & Postprandial
 - SGOT, SGPT (optional)

Assessment Criteria

Subjective Criteria

- Sr. Creatinine
 - Sr. Uric Acid
3. RA factor
 4. Anti CCP
 5. C-Reactive Protein
 6. ASO Titer
 7. Stool for Routine Examination (optional)
 8. Urine for Routine Examination (optional)

Visual Analog Scale for *Sandhi shool* (pain in joint) [8]



***Sandhi sotha* (swelling of the joints) → score**

- No swelling - 00
- Slight swelling + Heaviness - 01
- Moderate swelling + Heaviness - 02
- Severe swelling (Synovial effusion) - 03

***Sandhi Stabdhatta* (Stiffness of Joints) - >Score**

- No stiffness or stiffness lasting for 5, minutes - 00
- Stiffness lasting for 5 minutes to 2 hours - 01
- Stiffness lasting for 2 hours to 8 hours - 02
- Stiffness lasting for more than 8 hours - 03

Clinical Disease Activity Index for RA (CDAI) [9]

CDAI is calculated as follows: CDAI = SJC + TJC + PGA + EGA

Where:

- SJC = Swollen Joint Count
- TJC = Tender Joint Count
- PGA = Patient Global Assessment of Disease Activity
- EGA = Evaluator Global Assessment of Disease Activity.

Interpretation

- ≤2.8: Remission
- >2.8 and ≤10: Low Disease Activity
- >10 and ≤22: Moderate Disease Activity
- >22: High Disease Activity

AHA Criteria

Symptoms		BT	FU1	FU2	FU3
<i>Annabhilasha</i>					
<i>Bhaktasya paripakam</i>					
<i>Vista</i>	<i>Mutra</i>				
	<i>Purisha</i>				
<i>Sharira laghavam</i>					
<i>Suprasana indriya</i>					

Sukha	Swapnam				
	Pravatanam				
Bala					
Varna					
Sumanasha					
Samagnitwam					
Total Score					

- Positive Symptoms=1
- Negative Symptoms=0

Objective Criteria

Erythrocyte Sedimentation Rate (ESR)

- ESR range 0-30: 0 score
- ESR range >30 : 1 score

Result and Statistical Analysis of the Study

- From the demographic profile it is seen that Amavata is more prevalent Among women (68%) and in middle age group (30-50 years), 75%.

- 47% patient had irregular bowel habit and 71% had Apakwa (sticky, mucus mixed) stool consistency, it indicated poor GI condition in Amavata patient due to Mandagni.
- 37% patient felt pain and stiffness more at morning and 60% in rest condition.
- In clinical features Sandhishola, sotha, Gaurava and Stabdhata seen in all patient followed by Angamarda, Apaka, Alasya, Jwara, Vid vibandha, Trishna, Vichika damsya vedana, Utsaha hani and Nidra Viparjaya seen in more than 50% of people.
- 95% had a history of taking NSAIDs.

Statistical Analysis of the Assessment Criteria

Table 1: Pain Assessment According to Visual Analog Scale (VAS)

Symptoms	N	BT mean	Mean		Df	Paired t test			Significant
						SD	SEM	T	
Sandhi Shool (VAS)	100	6.60	FU1	6.22	99	6.22±0.70	5.07	<0.001	Highly significant
			FU2	4.69	99	4.69±1.00	15.61	<0.001	Highly significant
			FU3	3.38	99	3.38±1.17	23.42	<0.001	Highly significant

Table 2: Assessment of Sandhi sotha (swelling)

Symptoms	N	BT mean	Mean		df (N-1)	Paired t test			Significant
						Mean±SD	T	P	
Sandhi sotha (swelling)	100	2.14	FU1	1.78	99	1.78±0.50	6.43	<0.001	Highly significant
			FU2	1.10	99	1.10±0.41	19.61	<0.001	Highly significant
			FU3	0.58	99	0.58±0.57	24.35	<0.001	Highly significant

Table 3: Assessment of Sandhi Stabdhata (stiffness)

Symptoms	N	BT mean	MEAN		df (N-1)	Paired t test			Remark
						SD	SEM	T	
Sandhi stabdhata	100	1.95	FU1	1.62	99	1.62±0.56	6.98	<0.001	Highly significant
			FU2	1.08	99	1.08±0.58	17.21	<0.001	Highly significant
			FU3	0.79	99	0.79±0.54	20.58	<0.001	Highly significant

Table 4: Assessment of disease, Activity According to CDAI score

Symptoms	N	BT mean	Mean		df (N-1)	Paired t test			Remark
						Mean± SD	T	p	
CDAI Score	100	18.38	FU1	17.44	99	17.44±2.72	6.97	<0.001	Highly significant
			FU2	14.22	99	14.22±2.59	18.83	<0.001	Highly significant
			FU3	10.56	99	10.56±2.76	27.11	<0.001	Highly significant

Table 5: Assessment of Amavata According to AHA criteria

Symptoms	N	BT Mean	Mean		df (N-1)	Paired t test			Significance
						Mean±SD	T	P	
Ayurvedic Health Assesment Score	100	9.16	FU1	6.58	99	6.58±0.90	24.00	<0.001	Highly significant
			FU2	4.60	99	4.60±0.74	43.93	<0.001	Extremely significant
			FU3	2.82	99	2.82±0.70	53.23	<0.001	Extremely significant

Table 6: Assessment of disease activity According to inflammatory marker (ESR)

Symptoms	N	BT Mean	Mean		df (N=1)	Paired t test			Remark
						Mean±SD	T	P	
ESR	100	0.90	FU1	0.89	99	0.89±0.31	1.00	>0.05	Not Significant
			FU2	0.25	99	0.25±0.34	13.56	<0.001	Highly significant
			FU3	0.10	99	0.10±0.30	19.90	<0.001	Highly significant

DISCUSSION

Amavata is a *Rasa Pradosaja Vikara* with two major pathogenic factors *Ama* and *Vata*, which mainly affect *Sandhi* followed by *Asthi* and *Majja*. The symptoms of *Amavata* are identical to rheumatoid arthritis, a chronic inflammatory polyarthritis effecting multiple system. Activation of endothelium and immune cells is fundamental for initiation of autoimmune diseases such as Rheumatoid Arthritis (RA), and it results in transendothelial cell migration and synovial fibroblast proliferation, leading to joint destruction. In inflamed joints, infiltrating immune cells and synovial resident cells have great requirements for energy and nutrients, so they adapt their metabolic profiles to generate sufficient energy to support their highly activated inflammatory states. Due to shift in this metabolic capacity of synovial cells enables them to produce the essential building blocks to support their proliferation, activation and invasiveness. Further it results in the accumulation of metabolic intermediates and alteration of redox-sensitive pathways, affecting signaling pathways that again potentiate the inflammatory response. In disease active stage synovial stromal-immune cell interactions lead to reciprocal metabolic changes that again potentiate the inflammatory response. Here we can understand the metabolic & cellular pathology during active stage of disease. Hence metabolic reprogramming could represent a new therapeutic strategy for patients with RA, where our *Basti* therapy followed by *Rasayana* must have a great role.

Probable Mode of Action

Kshara basti

It is a type of *Tikshna niruha basti* works on the basis of *Guna Vaisheshika Siddhanta* shows significant result in *Amavata*. All the ingredients of *Kshara Basti* have some specific role in the management of *Amavata*. *Saindhava lavana* via its *Sukshma* and *Tikshna guna* causes *Srotoshodhana* and it helps the

Basti Dravya to reach up to the molecular level. Due to its irritant property, it helps in the elimination of waste material. It is capable of liquefying the viscous matter and break down them into tiny particles.

Purana Guda with *Saidhava lavana* forms homogeneous and nearly isotonic mixture and permeability through cellular level increases. *Purana Guda* is *Laghu*, *Pathya*, *Anabhishtyandi*, *Agnivardhaka* and *Vatapittashamaka* so useful for *Amavata chikitsa*. *Amlika* has *Ruksha*, *Ushna*, *Amla*, *Vatakaphashamaka* properties which makes it useful for the *Amavata*. *Gomutra* due to its *Katu rasa*, *Katu vipaka*, *Ushna virya*, *Laghu*, *Ruksha* and *Tikshna Guna* pacify the *Kapha Dosh*. It also possesses *Tridosahara*, *Agnideepana*, *Pachana*, *Srotovishodhana* and *Vatanulomana* properties. The drugs administered through the rectum can reach higher blood circulation due to partial avoidance of hepatic first pass metabolism because rectum has rich blood and lymph supply so the drugs can cross the rectal mucosa as they can cross other lipid membrane. So, unionized and lipid-soluble substances are readily absorbed from the rectum.

The portion absorbed from upper rectal mucosa is carried by superior hemorrhoidal vein into the portal circulation, whereas that absorbed from lower rectum enters directly into the systemic circulation via the middle and inferior hemorrhoidal veins and thus it provides quicker results. The rectal wall contains pressure receptors and neural receptors which are stimulated by various drugs present in *Kshara Basti Dravya* and results in increase in conduction of sodium ions. The inward rush of sodium ions is responsible for generating action potential. *Saindhava Lavana* present in *Kshara Basti* probably generates action potential and helps in diffusion and absorption of the *Basti Dravyas*.

Basti therapy can be considered as a prime remedy for *Amavata*. It influences GIT, enteric nervous

system also the autonomic nervous system thereby producing systemic effect.

The overall effect of *Kshara Basti* can be summarized as encolonic i.e., action on tissues of colon, endocolonic i.e., action inside colon and diacolonic (systemic action). Thus *Kshara basti* breaks the obstructions and expels out the morbid material from all over the body thus helps in breaking down the pathogenesis of diseases.

Sunthi-Guduch Churna

Sunthi is having *Laghu, Snigdha Guna, Katu Rasa, Madhura Vipaka* and *Ushna Virya*. By Virtue of *Ushna Virya* it pacifies *Kapha* and *Vata* and also acts as *Dipana, Pachana, Shulaprashamana, Shothahara*. *Sunthi* help in modulation of metabolic health of disease person. It acts as anti inflammatory agent by producing inhibitory effect on prostaglandin synthesis and leukotriene biosynthesis.

Guduchi is having *Katu, Tikta, Kashaya rasa* and *Ushna virya*, it does *Ama pachana*. It also acts as *Agni deepak* and *Vatahara*. The anti-inflammatory effect *Guduchi* was mediated via reduction of the pro inflammatory cytokines such as: IL-16, TNF-alpha, IL-6, and IL-17 etc. Due to its *Rasayana* property its action was expected in micro level by cellular repairing, it may be the reason of its immunomodulator effect.

CONCLUSION

- By analysing statistical data with paired t test it reveals that 58% had major improvement followed by 37% had minor improvement and 5% of patients who had no improvement.
- According to CDAI score complete remission was not found in my 2 month study.
- In 1st follow up (after 15 day) symptomatic relieves is less compare with next two follow up and no significant serological changes was found.
- After completion of therapy patient get much Improvement in their general functional ability.
- From the statistical data of before and after treatment seen a positive result with highly significant p value and it indicate the efficacy of my trial drug in *Amavata*.
- As it a trial only for two month, its effect on serological evidence is not significant. As to follow

remission criteria for RA many years of screening was needed. Nodoubt basti is very effective or may be a alternate way for management of RA. To evaluate it we need a continuous and micro level study.

REFERENCES

1. Sri Vijayrakshita and Srikanthadatta, proff yadunandana upadhyaya. reprint 2014. Madhukosha Sanskrit Commentary on Madhava Nidanam of Madhavakara (Vol 2), Chapter 25, Verse 4-5 Varna Chaukhamba Orientalia; p.501
2. Dennis L Kasper et al. Harrison's Principal of Internal Medicine, vol 2, 19th edition chapter 380, p 2136
3. Vagbhata. Arunadatta, Hemadri. Astanga Hridaya. Basti Vidhi Adhyaya. 10th edition. Varanasi: Chaukhambha Orientalia; 2011. Vol 1 p. 286
4. Sri Bhavamishra. Bhavaprakash. 2nd part, 11th edition (2009), Varanasi, Chaukhambha sanskrit bhawan, Amavatadhikar.p.285
5. Chakradatta Sri Chakrapanidatta with the Vaidayaprabha Hindi commentary Dr. Indradeva tripathi, Editor Prof. Ramanath dwivedy. Reprint, 2019, Varanasi, Chaukhambha sanskrit bhawan, Niruha adhikar. p.453
6. Sri Vijayrakshita and Srikanthadatta, prof yadunandana upadhyaya.reprint 2014 Madhukosha Sanskrit Commentary on Madhava Nidanam of Madhavakara (Vol 2), Chapter 25, Verse 6 Chaukhamba; p.511
7. Jonathan Kay, Katherine S. Upchurch, ACR/EULAR 2010 rheumatoid arthritis classification criteria, Rheumatology, Volume 51, Issue suppl_6, December 2012, Pages vi5-vi9, <https://doi.org/10.1093/rheumatology/kes279>
8. Carol A. Bodian, Gordon Freedman, Sabera Hossain, James B. Eisenkraft, Yaakov Beilin; The Visual Analog Scale for Pain: Clinical Significance in Postoperative Patients. Anesthesiology 2001; 95: 1356-1361
doi: <https://doi.org/10.1097/00000542-200112000-00013>.
9. <https://reference.medscape.com/calculator/279/clinical-disease-activity-index-for-ra-cdai>

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