

CLINICAL EFFICACY OF SHIRISH (*Albizia lebeck (L.) Benth.*) KWATH AS VISHAGHNA DRAVYA IN AMAVATA

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ABSTRACT

Symptomatic relief has become a popular mode in the management of any disease that shows up. *Amavat* has been a debilitating disease mentioned in our historical textbooks since *laghutrai* and is a crippling disorder leading to debility. Its 1st entire explanation came into lime light through a textbook named *Madhav nidana*^[1]. Nonstandard dietary practice, community structures, changes in way of life and surroundings directs to *Amavata*. Rheumatoid arthritis is a very parallel to *Amavata* in modern science. *Shirish* has been chosen to have a high quality results with low cost and no adverse events in contest to R.A. In the present study, 30 patients were randomly selected and divided into 2 groups with 15 patients in each group. Group-A was treated with *Shirish Kwath* and Group-B was treated with placebo capsules. Study under taken was single-blind. On inter-group comparison it was seen that the trial conducted was statistically non-significant with significant result on *sandhishootha* and *sundhishool*. So it was concluded that drug has positive effect on the management of *Amavata*, but still *Shirish* has to be given in combination with the other drugs to manage all the complications of the disease.

Keywords: *Amavat, Shirish, Adverse Drug Reaction, Rheumatoid Arthritis, Placebo.*

INTRODUCTION

The history of use of medicinal plants is one of uninterrupted phenomenon since antiquity and hence oldest subject of research for human being. By innumerable experiments depending on need and necessity, ancient *acharya* of *ayurveda* made their own vegetable material media. This research work is a same kind of effort in which we have tried to evaluate

the efficacy of *Shirish* as a *vishaghna dravya*^[2] within modern parameters.

शिरिषो विषघ्नानां ---च. सु (25/40)

Many food products either of mineral origin or vegetable origin, if incompatible to our body, produces delayed toxic effect on our body are kept under the banner of “*DUSHI VISHA*”^[3]. *Amavisha* also falls under its parameter.

Acharya Charak in Vimana Sthana^[4] has clearly depicted the poisonous effect of *Ama* and called it *Ama Vish. Amavisha* (poison) formed in the body produces toxic effect at cellular levels.

सर्वे शरीरदोषा भवन्ति ग्राम्याहारा (च. चि.- ½- 3)

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**विरुद्धाध्यशनाजीर्णाशनशीलिनः पुनरामदोषमामविषमि
त्याचक्षते भिषजः,**

**विषसदृशल्लिङ्गत्वात्; तत् परमसाध्यम्, आशुकारित्वाद्धि
रुद्धोपक्रमत्वाच्चेति॥ च. वि. - 2/12**

Hence in treatment of *Amavata* we are using *Shirish Kwath*, as *shirish* has been mentioned as best *VISHAGHNA* and *vednasthapaka* by *Acharya Charak* under *agreya dravya*, *shothahara* by *Acharya Bhavprakash*. The assortment of drug is made not only because of its *ayurvedic* reference as *Vishaghna Dravya*, but also because it depicts analgesic, anti-inflammatory, immuno-modulator and free radical scavenging property. . Hence this research study aims toward the detoxification of body through *Shirish Kwath* and pacification of etiological factors of Rheumatoid Arthritis.

Countries whether developed, or are under a phase of development, are facing tremendous intensity of degradation in health due to the appearance of so many deadly diseases. A lot of work has been done by (M.D & PhD) scholars on *amavata*, but none of them presented this disease as an effect of taking *dushit* “*AHARA-VIHARA*” falling under the banner of “*DUSHI VISHA*”. “Now it’s a matter of research to open up the terms said in *sutra rupa* in our texts”.

The prevalence of *Amavata* and other joint disorders have increased dramatically in the recent years owing to our changing lifestyle. As per CDC (CENTRE FOR DISEASE CONTROL) and collective

facts from the National Health Interview Survey (2010-2012), 22.7 % (52.5 million) of adults were establish affirmative for Rheumatoid Arthritis, with elevated age-adjusted frequency in women (23.9%) than in men (18.6%). Nowadays, due to strenuous work schedule and increased pace of life, it has become a burning problem. Because of the crippling nature of disease in the advanced stages, it decreases the quality of life and reduces the life expectancy of the individual. Our counter pathies are also being proved fruitless in terms of full remedy for *amavat*.

HYPOTHESIS MODEL

- *Ama* can be compared to free radical which is supposed to enhance the process of joint destruction.
- Hyper-activity of immune system.
- Acute/chronic inflammation of joints.

In Allopathic system of medicine, the treatment of Rheumatoid arthritis involves mainly the use of NSAIDs (Non –steroidal anti-inflammatory drugs), DMARDs (Disease Modifying Anti-Rheumatic Drugs) and Corticosteroids. It is seen that they provide symptomatic relief and are beneficial in acute conditions but they have many side- effects to the misery of the patients. This type of treatment is against the principles of *Ayurveda* which focuses on *Shuddha Chikitsa*^[5].

Amavata is the most common weakening joint disorder that almost cripples the patient's life. It is most frequently seen in patients with changed dietary habits, social structure, environment, plus mental stress and strain. In this respect, *Ayurveda* has a lot to offer.

AIM AND OBJECTIVES

- To study *amavat* as per classical text.
- To study rheumatoid arthritis as per modern text, articles, search engines etc.
- To evaluate *Vishaghana* property of *Shirish kwath*.
- To assess the efficacy of *Shirish kwath* in *Amavata*

MATERIAL AND METHODS: The methodology is divided into 3 parts-

- Collection of raw drug from natural habitat, its identification and finally it's conversion from raw state into course powder form.
- Clinical study.
- Data collection and Statistical analysis.

CLINICAL STUDY: The third part, called a clinical study contains Aim and Objectives of the study, plan of the study, research design, inclusion and exclusion criteria, grouping pattern, data collection technique and criteria for assessment.

Selection of Patients

Total 30 Patients of *Amavata* were selected from the O.P.D. / I.P.D at Uttarakhand Ayurved University, Rishikul Campus- Haridwar. The study was conducted on the patients randomly divided into 2 groups that means 15 patients were taken in each group on the basis of inclusion and exclusion criteria depending on the detailed clinical history, physical examination and other necessary / desired investigations.

Selection of Drug

- **Shirish kwath**—Bark was collected in the month of Feb and dried in sun. Bark was made into coarse powder and packed, and patient was directed to prepare *kwath* as per (classical method) *Sharangdhara*.

- **Authentication of the collected sample:**

Shirish was collected from the natural sources and their identification was carried out by imminent person of *Dravyaguna* Dept. at Rishikul Campus-Haridwar (UAU). Further authentication was done from Botanical Survey of India, Dehradun (BSI/NRC Tech./Herb[Ident].2018-19/200).

1. Subjective, 2.Objective

- **Subjective:** The subjective assessment was done on the basis of: Improvement in following signs and symptoms of *Amavata* as described in classics^[8]:

1.	<i>Sandhishoola</i> (Joint pain)	6.	<i>Jaadya</i> (Morning stiffness)
2.	<i>Sandhishotha</i> (Joint swelling)	7.	<i>Sparshasahyata</i> (Tenderness)
3.	<i>Gaurav</i> (Heaviness in the body)	8.	<i>Apaaka</i> (Indigestion)
4.	<i>Jwara</i> (Fever)	9.	<i>Bahumutrata</i> (Frequency of micturition)
5.	<i>Aruchi</i> (Loss of appetite)	10.	<i>Utsahahani</i> (Loss of vigour)

Dose of Drug

- ❖ Dose of drug was calculated, keeping in mind an average person.

- ❖ *Shirish kwath* 40ml B.D^[6].

Method of preparation: 20gm of drug was taken and a decoction was prepared by putting 160 ml of water, in a ratio 1:8(Drug: water), and on remaining 40ml (¼) it's ready to be consumed. (Sa.Sm)

- **Duration of study:** 45 days.

- **Type of Study:** Single blind

- **Follow up:** The follow up of the patients was done at an interval of 15 days.

➤ Drug Trial Schedule

The selected patients for trial were divided into following 2 groups.

- **Group A**—15 clinically diagnosed & registered patients of *Amavata* were treated by Placebo capsules containing starch 1 capsule two times a day with Luke warm water after meal.

- **Group B**—15 clinically diagnosed & registered patients of *Amavata* were treated by *Shirish kwath*, 40ml twice a day (Before Meals).

Both the groups were kept under strict food regimen, with an advice to intake "*Ushana Odaka*"^[7] in place of normal water whenever required by the patient. Patients were advised to visit O.P.D later on to prevent pathogenesis of the disease.

Criteria for Assessment

The assessment of the trial was done on the basis of following parameters:

Inclusion Criteria

- Patients having classical features of *Amavata*.
- Age group of 20-60 years.
- Patients fulfilling American College of Rheumatology (ACR) criteria, 1987:
 1. Morning stiffness
 2. Arthritis of 3 or more joints
 3. Arthritis of hand joints
 4. Symmetric arthritis
 5. Rheumatoid nodules
 6. Serum rheumatoid factor
 7. Radiographic changes

Exclusion Criteria

- If disease is severe and needs emergency treatment.
- Chronicity for more than 15 years.
- Having severe crippling deformity.
- Patients with other systemic diseases like Cardiac disease, Tuberculosis, Diabetes mellitus, Hypertension.
- Medically and surgically ill patients.
- Personal matters
- Aggravation of complaints
- Intercurrent illness
- Any other difficulties
- Leave against medical advice

Objective: The objective assessment was done on the basis of changes in clinical findings, relevant laboratory parameters, and Functional assessments.

Investigations

1. C.B.C
2. E.S.R
3. R.A factor

OBSERVATIONS AND RESULTS:**Percentage of effect on the symptoms in Group-I**

Sandhishool (53.8%), *Sandhishotha* (52.2%), *jwara* (10%), *Sparshashayata* (50%), *Bahumutrata* (10%), *Utsahhani* (25%), *Aruchi* (72.7%), *Apaka* (77.8%), *Jadyata* (35%) and *Gaurav* (38.5%).

Percentage of effect on the symptoms in Group-II

Sandhishool (8.3%), *Sandhishotha* (12.5%), *jwara* (0%), *Sparshashayata* (0%), *Bahumutrata* (0%), *Utsahhani* (0%), *Aruchi* (55.6%), *Apaka* (71.4%), *Jadyata* (16.7%) and *Gaurav* (26.7%).

Effect on biochemical & hematological Investigations:

After treatment in both the groups, hematological investigations remained almost the same (C.B.C, E.S.R). And all parameters were found statistically insignificant R.A (14.3%).

Overall Effect of Therapy:

❖ In Group-I (14 patients) overall effect was assessed as moderate to mild improvement in 36.4% and 27.3% of symptoms respectively, with no improvement in 27.3% of symptoms.

In Group-II (11 patients) overall effect was assessed with no improvement in 72.7% of symptoms, with moderate to mild improvement in 18.2% and 9.1% of symptoms respectively.

RESULT:

Statistically Non-significant improvement is found on intergroup comparison. But it is also seen that significant improvement is found in *sandhishotha* and *sandhishool* in Group-I as compared to Group-II.

COMPARISON BETWEEN GROUP A AND GROUP B:

Symptom	Group	N	Mean Rank	Sum of Ranks	Mann-Whitney U	P-Value	Result
<i>Sandhishool</i>	Group A	14	19.50	273.00	14.000	0.000	Sig
	Group B	11	8.08	105.00			
	Total	25					
<i>Sandhishotha</i>	Group A	14	17.79	249.00	38.000	0.004	Sig
	Group B	11	9.92	129.00			
	Total	25					
<i>Jwara</i>	Group A	14	14.46	202.50	84.500	0.335	NS
	Group B	11	13.50	175.50			
	Total	25					

Sparshashayata	Group A	14	14.46	202.50	84.500	0.335	NS
	Group B	11	13.50	175.50			
	Total	25					
Bahumutrata	Group A	14	14.46	202.50	84.500	0.335	NS
	Group B	11	13.50	175.50			
	Total	25					
Utsahhani	Group A	14	15.39	215.50	71.500	0.082	NS
	Group B	11	12.50	162.50			
	Total	25					
Jadyata	Group A	14	15.25	213.50	73.500	0.319	NS
	Group B	11	12.65	164.50			
	Total	25					
Gaurav	Group A	14	14.32	200.50	86.500	0.789	NS
	Group B	11	13.65	177.50			
	Total	25					
Aruchi	Group A	14	15.21	213.00	74.000	0.341	NS
	Group B	11	12.69	165.00			
	Total	25					
Apaka	Group A	14	14.75	206.50	80.500	0.554	NS
	Group B	11	13.19	171.50			
	Total	25					
R.A	Group A	14	14.93	209.00	78.000	0.165	NS
	Group B	11	13.00	169.00			
	Total	25					

For comparison between Group A and Group B, we have used Mann Whitney U test. From above table we can observe that P-Values for almost all parameters are greater than 0.05. Hence we conclude that, there is no significant difference in effect of Group A and Group B. But it was also observed that the trial drug depicted statistically significant effect on *sandhishoola* and *sandhishotha*.

DISCUSSION

Amavata, a *rasavaha srotas's vyadhi* that ends up producing *Angvaikalyta*, is one of the most crippling *vyadhi* ever encountered^[9]. The *Nidana sevana*, which nowadays is most commonly referred to as an unpredictable lifestyle, deranges the *Vata Pradhan tridosha*. Due to which it is *sammurchita* with *Ama (rasavaha srotas)*. Finally the *sandhi* (mainly *Triksandhi*) became the *adhithana* of *dosh - dushya sammurchna*. In this present study, data shows that Maximum (52%) of the patients were R.A. negative and 48 % R.A. positive. The presence of Rheumatoid

Factor does not establish the diagnosis for RA, but it can be of prognostic significance, because patients with high titres tend to have more severe and progressive disease with extra-articular manifestation. Statistically the decrease in R.A Factor was found non-significant in both Group-A and Group-B. Statistically the relief in *sandhishool* was found significant in group-A and non-significant in group-B with respective values ($p=0.000$) and ($p=0.083$) respectively. Percentage of relief found in Group-A and Group-B was found to be 53.8% and 8.3% respectively. Statistically intergroup comparison was observed significant ($p<0.05$) *Shoola* is the features of vitiated *Vata*. The *shoola* in *Amavata* is caused by *Ama's* involvement. *Shirish Kwath* has the properties of the *shoolhara* (Analgesic)^[10]. Therefore, after using this *kwatha*, the *shoola* reduces.

Statistically significant relief in *sandhishool* was found in group-A ($p=0.001$) and non-significant in group-B ($p=.0180$). Percentage of relief found in Group-A and Group-B are 52.2% and 12.5%

respectively. *Shotha* is caused in the joint space by the presence of *Ama* and *Kapha*. *Shirish*, *anushana*, *teekshana guna* help diminish the *shotha*^[11]. Statistically significant relief in *jadyata* (0.008) and *gaurav* in both group-A (p=0.008, 0.025) and in group-B (p=0.046, 0.025). The percentage of relief in Group-A and Group-B for *Jadyata* and *Gaurav* were found to be (35%, 38.5%) and (16.7%, 26.7%) respectively. But statistically intergroup comparison was observed to be non-significant (p>0.05). The joint's stiffness and heaviness is brought out by the *Ama* and *kapha* collection which does the *vata Avarana*. *Shirish's katu* and *tikta rasa*^[12], are *deepan* and *pachan* and bring about the *Ama pachna*, *kapha shaman*, in so doing reducing the *jadyata*. Statistically significant relief in *Apaka* and *Aruchi* was found in both group-A and group-B, (p=0.008, 0.005) and (p=0.025, 0.025) respectively. Percentage of relief for *Apaka* and *Aruchi* were (77.8%, 72.7%) and (71.4%, 55.6%) respectively Intergroup comparison was observed to be statistically non-significant (p>0.05). *Aruchi* and *Apaka* are present due to *ama* and *khapha dosha*. These entities are decreased due to *Katu* and *tikta rasa* of *shirish*. Statistically effect on *Sparshasahyata*, *Jwara*, *Bahumutrata* and *Utsahhani* were found to be non-significantly in group-A and in group-B, (P=0.317, 0.317, 0.317, 0.083) and (1.000, 1.000, 1.000, 1.000) respectively. Percentage of relief found in Group-A and Group-B for these symptoms were (50%, 10%, 10%, 25%) and (0%, 0%, 0%, 0%) respectively. Statistically intergroup comparison was also observed to be non-significant (p>0.05).

CONCLUSION

Conclusion is made on the basis of subjective and objective parameters:

The *Shirish Kwatha* is effective only in mild to moderate aggravated cases of *Amavata*.

Shirish Kwath acted as an immunomodulator, anti-oxidant, analgesic and anti-inflammatory drug.

Only *Shaman Aushdi* is not enough in chronic cases, *shodhna* would also be desirable.

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