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ORIGINAL RESEARCH ARTICLE

Role of *Amrita Guggulu* in the management of *Vata-rakta* - A Clinical Trial

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ABSTRACT

In the present revolutionary era the life of a person is hectic and materialistic. For the survival of fitness, the men expected to remain healthy physically as well as mentally. It is quite difficult due to the various obstacles which are experienced by men during his routine life. The disease *Vata-rakta* is one of them. It is a burning problem of present era. It has attracted the attention of world's scientists working on the problem, not due to its fatality but due to its remote complications and sequels. If the chronic condition is not treated properly the deformity of joints and cartilages cripples a person throughout his life. *Vata-rakta* is an ailment where both *Vata* and *Rakta* are responsible to lead a complex effect on the joint and produces *Vata-rakta*. *Vata-rakta* is a disease of joints and its clinical onset is from great toe which later spreads over other joints of the body. In *Chakradutta*, *Vatavyadhi Rogaadhikaar*, Chapter 23, Amrita Guggulu is described. *Amrita Guggulu Pratham* described therein is taken here for the treatment of Vatarakta. This is a single-blind clinical study with a pre-test and post-test design, wherein a minimum of 30 patients of both sex, suffering from *Vata-rakta*, in an age limit of 20 to 60 years, were selected randomly and given Amrita Guggulu with an Anupaana of Amritaadi Kashaya72 ml with each dose. The therapeutic effect of the treatment was assessed based on specific subjective and objective parameters. The results obtained were analyzed statistically. In this, statistically significant improvement was observed in all the criterion of assessment.The use of Amrita Guggulu as Shamana Aushadha was a perfect selection in the management of *Vata-rakta*. As a preliminary study, it has paved the further scope of study with bigger sample size in management of *Vata-rakta*.

Key words: Gout, Hyperuricemia, Serum Uric Acid, Tenderness, *Vata-rakta*.

INTRODUCTION

Ayurvedic texts judge *Vata* as the most significant in the midst of the *Tridosha*, due to its six-fold distinguishing features like spreading, quick action, vigor, capability to vitiate other *Doshas*, autonomy, and the power to create the maximum number of diseases [1]. At the same time, it is also assumed that the life of living beings absolutely depends on *Rakta* [2]. *Vata-rakta* is an illness where both *Vata* and *Rakta* are afflicted by distinct etiological factors [3].

The status of *Vata-rakta* is often compared with Gout in the allied sciences due to the outstanding similarities. Gout is a clinical syndrome and is a group of metabolic diseases in which clinical manifestations are associated with tissue deposition of crystals of monosodium urate monohydrate from hyperuricemic body fluids [4]. Acute Gout affects mainly synovial joints, cartilages, tendon sheaths and bursae but the local aggregation of monosodium urate monohydrate crystals also occur in non-articular cartilage [5]. Over the span of years, the progressive accumulation of urates and recurrent attack of

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inflammation leads to chronic destructive arthritis [6].

REVIEW OF PREVIOUS WORKS DONE

Approximately 37 studies have been conducted all over India on *Vata-rakta* [7-10]. On analysis it is revealed that most of the studies were carried out by considering *Vata-rakta* as gouty arthritis or rheumatoid arthritis. A few studies have also been performed considering *Vata-rakta* as an ischemic limb disease. Even after the towering prevalence of the disease in the present population, very few research studies have been conducted in this regard, which mainly deal with the outcome of the *Shodhana* therapies. However, the results of these small numbers of studies are extremely promising.

As it is an *Avaranajanya Vyadhi*, different preparations with drugs having *Srothosudhikaraka* and *Vyadhi Hara Rasayana*- properties like *Guggulu* are exclusively indicated in the management of *Vata-rakta*. The herbal preparations like *Amrita Guggulu*, consisting mainly of ingredients like *Guggulu (Commiphora mukul), Triphala (Terminalia chebula Retz, Terminalia bellerica, Emblica officinalis), Guduchi (Tinospora cordifolia)* [11], and so on, are said to be useful in curing the illness [12].

Thus, getting immensely inspired by the above-mentioned data, the present study was carried out with a target to hit upon a better efficacious *Shamana Aushada* in stipulation of *Vata-rakta*.

AIMS AND OBJECTIVES

To study the efficacy of Amrita Guggulu in the management of Vatarakta.

MATERIALS AND METHODS

Source of the data

The patients who attended the OPD and IPD of the Kripayanam Research and Therapy Center, Gandhi Road Kankhal, Haridwar, Uttarakhand & Rishikul State Ayurvedic College and Hospital Haridwar, Uttarakhand, with signs and symptoms of *Vata-rakta*, were screened. Among these, 30 patients who fulfilled the criteria of inclusion, mentioned a little later in the text, were included in the study.

Inclusion criteria

1. Patients having classical symptoms of *Vata-rakta*.
2. Patients having elevated serum Uric acid level more than 8mg/dl [13].
3. Age group between 20-60 years.

Exclusion criteria

1. Patients having complications.
2. Patients with age of less than 20 and more than 60 years.
3. Patient having any other systemic illness.
4. Patients taking modern medicine for long time.

Investigations

Following are the investigations carried out on all 60 patients for the conduction of this study:

1. Hb%, TLC, DLC, ESR, Serum uric acid level.

Design

The study was a single-blind, clinical study with a pre-test and post-test design.

Intervention

A group of thirty patients was given oral administration of Tab *Amrita Guggulu* in a dose of 500 mg thrice a day.

Anupana- Amritadi Kashaya 72 ml for both drugs.

Assessment criteria

The assessment criteria are shown in (**Table 1**).

Table 1: Assessment Criteria

Subjective Criteria	Scoring
1-Sandhi-Shool (pain in joints)	
No pain	Grade-0
Mild pain	Grade-1
Pain at movement and relieved at rest	Grade-II
Constant pain	Grade-III
Severe pain disturbing sleep	Grade-IV
2-Sandhi-Shotha (swelling of joints)	
No swelling	Grade-0
Mild swelling	Grade-1
Moderate swelling	Grade-II
Severe swelling with loss of movement	Grade-III
Acute swelling	Grade-IV
3-Raga (redness)	
No redness	Grade-0
Mild redness	Grade-I
Moderate redness	Grade-II

Severe redness with coppery discoloration	Grade-III
Very severe redness (discoloration with blackish coppery appearance)	Grade-IV
4-*Kandu* (Pruritis)	
No localized itching	Grade-0
Mild localized itching	Grade-I
Moderate localized itching	Grade-II
Severe localized itching (itching with discoloration)	Grade-III
Very severe localized itching (desquamation of overlying skin)	Grade-IV
5-Vidaha (Burning sensation)	
No burning sensation	Grade-0
Mild burning sensation	Grade-I
Moderate burning sensation	Grade-II
Severe burning sensation	Grade-III
Very severe burning sensation	Grade-IV
6-Tvaka-Vaivarnyata (Discoloration of skin)	
No discoloration of skin	Grade-0
Mild discoloration of skin	Grade-I
Moderate discoloration of skin (shiny overlying skin)	Grade-II
Severe discoloration of skin (coppery discoloration)	Grade-III
Very severe discoloration of skin	Grade-IV
7-Sparsha-Asahishnuta (Tenderness)	
No tenderness	Grade-0
Patient says the joint is tender	Grade-I
Patient winces	Grade-II
Patient winces and withdraws the affected part	Grade-III
Patient doesn't allow part to be touched	Grade-IV

Assessment of overall effect

- Complete Remission: 100% Relief
- Markedly Improved: 76-99% Relief
- Moderately Improved: 51-75% Relief
- Improved: 26-50% Relief
- Unchanged: 0-25% Relief

OBSERVATIONS

Of the 30 patients of *Vata-rakta* studied in this research, the maximum number of patients (nearly 40%) belonged to the age group of 31 – 40 years. Following this, the maximum number of patients was in the 41 – 50 years age group. Sixty-seven percent of the patients were male. The majority of patients were Hindu, i.e. 55%, in the present study. It was observed that 17% of the females in this study were housewives. Also, it was found that the largest category of patients was engaged in other occupations. The study revealed that most of the patients belonged to the middle and the rich socioeconomic status (97%).

The maximum number of patients (77%) had the habit of taking a mixed diet. A dominance of *Madhura Rasa* in the diet was observed in most of the patients. Also, in the present study, majority of the patients had *Avara Samhanana* (57%). Similarly, in the present sample of patients suffering from *Vata-rakta*, about 50% patients had *Krura Koshtha*. Of the 30 patients suffering from *Vata-rakta* taken for the study, 70% of the patients had gradual onset of the disease, and in 30%, the onset was insidious. None of the patients had a sudden onset of illness.

RESULTS AND DISCUSSION

Vata-rakta is a *Vatavyadhi Prabheda*. The illness is considered to be the finest illustration of an *Avarana Vyadhi*, as an opening from the etiopathogenesis to the complications, the illness follows the characteristic presentation of *Avarana*. Compared with the other *Vatavyadhi*, *Vata-rakta* possesses a special place in the literature, due to its high prevalence in the society, increased incidence as age advances, step-wise succession, and so on.

From the overall view of the etiology, it is obvious and unambiguous that the precise etiological factors of *Vata Dosha* as well as *Rakta Dhatu* are accountable for the causation of illness. At the same time, an alternate form of *Vata-rakta* also exists, which is the result of *Kapha-medo Avarana* in *Rakta Marga*. Whatever be the grounds, an obstruction in the path of *Rakta Dhatu* is the core pathology of the disease. Inactive life fashion is ordinary among this category of people. Sedentary lifestyle has a clear-cut role in the causation of the illness. Similarly, the sample indicates the prevalence of the illness in middle and higher class people.

Patients showed marked remission of the symptom of pain after intervention. The results are shown in (**Table 2**). The initial mean score for *Sandhi-Shool* (pain) was 2.8, which came down to 1.866 after treatment, exhibiting a statistically, highly significant improvement, with $P < 0.001$ and about 66.75% relief. Burning sensation was one of the cardinal symptoms of *Vata-rakta*, which was relieved by 63.63% in patients. 85.7% percent improvement was observed in the symptom of

'*Saruk-Shoth'*. This improvement after the treatment was found to be highly significant ($P < 0.001$) as per the paired "*t*" -test. It showed that *Amrita Guggulu* was helpful in managing the symptoms of Vata-rakta.

Discoloration of skin is another symptom of *Vata-rakta*. The initial mean score of the patients for discoloration of skin was 1.2, which was reduced to 0.466 after the treatment. The initial mean score of the patients for tenderness was 3.066, which was reduced to 2.4. The improvement was 78.35%. This improvement was significant with P<0.001. In case of the symptom of edema (*Saruk-Shoth*), the change that occurred with the treatment was greater than what could be expected by chance; there was a statistically significant change ($P < 0.010$), as assessed by the paired "*t*" -test. 93.33% percent improvement was observed in the score of *Kandu* (itching); the initial mean score was recorded 2 in the 30 patients of *Vata-rakta*. This was brought down to 1.866 after the administration of *Amrita Guggulu*. This improvement after the treatment was found to be highly significant ($P < 0.001$) as per the paired "*t*" -test. The mean initial score of Serum Uric Acid was 8.68 before the treatment. This initial mean score came down to 3.306 after the treatment. The improvement to the tune of 38.09% was significant ($P< 0.001$), as revealed by the paired "*t*" -test.

The overall assessment revealed the efficacy of *Amrita Guggulu* in managing the illness.

Pharmaco-dynamical aspect of Amrita Guggulu in modern parlance-

The management of hyperuricemia goes through two ways:

1. Management of Symptoms
2. Breaking down the Pathology- this comprises of two set of medications:
    I. Inhibition of Xanthine Oxidase. Xanthine Oxidase inhibitors decrease the production of Uric Acid by interfering with Xanthine Oxidase enzyme.
    II. Excretion of Uric acid through Uricosurics. Uricosurics increase the excretion of uric Acid by reducing its re-absorption once the kidneys have filtered it out of the blood.

The effect of trial drug *Amrita Guggulu* is due to anti-inflammatory [14,15] activity of *Amrita* which reduces the inflammation and gives symptomatic relief as well as its uricosuric action which excretes excess amounts of Uric Acid from the body [16]. *Amrita* also works on the other associated symptoms of the disease like fever [17] and stone forming tendencies [18].

Another important content of *Amrita Guggulu* is *Guggulu* which possesses the properties of anti-inflammatory [19, 20], antioxidant [21,22] , Uricosuric [23], anti-rheumatoidal [24] helps in breaking the patho-physiology of Gout.

Triphala works as a Xanthine Oxidase inhibitor [25] like Allopurinol which suppresses the production of Uric Acid. Its content *Haritaki* has antioxidant [26, 27] and adaptogenic [28] properties which help in the recovery and healing of deformed tissue. *Bibhitaki*, another content of *Triphala* has nephro-protective [29] function which retards the Urolithiasis and dissolves already formed stones in kidney while *Amalaki* has anti-inflammatory, analgesic, antipyretic [30] and antioxidant [31] properties which help reducing the local and systemic inflammatory effects of Gout.

Vidanga with its antioxidant [32] property brings out the regenerative changes in the deformed joints due to hyperuricemia induced Gout.

Maricha has Antioxidant [33], immune-modulatory [34] property subsides the hyperactive immune responses precipitated due to Uric Acid. Vasodilatory property [35] increases the blood circulation to the affected joint and enhances the process of phagocytosis of antigen-antibody complexes responsible for hypersensitivity which gave rise to inflammation.

Trivritta and *Danti* possess anti-inflammatory and immunomodulatory [36] properties respectively which help in alleviating the symptoms of the disease and combating the hyper-immune responses. Also, *Danti* possesses antioxidant [37] property which helps in the rejuvenation of the joint along with breaking the pathology of the disease.

In this way, *Amrita Guggulu* has all the aspects of Pharmaco-therapeutic effect required for the management of Hyperuricemia induced Gout like Anti-inflammatory, Anti-oxidant, Immuno-modulator, Xanthine Oxidase Inhibitor, Uricosuric and Diuretic effects. *Amrita Guggulu*as a compound formulation contains the drugs which have multi directional effect on the management of Gout. Hence, it has shown highly significant results in the management of the disease. As per the properties of drugs in *Amrita Guggulu*, it also has preventive effect in Gout.

Table 2: Effect of therapy on the subjective and objective parameters in patients of the administered*Amrita Guggulu*

S. No	Subjective and objective Criteria	Mean Score		D±	% Of relief	SD±	S.E.	't' value	P value
		No. of Pt (BT)	No. of Pt. (AT)						
1	*Sandhi-Shool* (pain in joints)	2.8	.933	1.866	66.75	0.7432	.1919	9.7273	<0.001
2	*Saruk-Shoth* (swelling with pain)	2.33	.333	2	85.71	1	.2582	7.746	<0.001
3	*Raga* (redness)	2.333	.2666	2.066	88.75	.8837	.228	9.057	<0.001
4	*Kandu*(itching)	2	.133	1.866	93.33	1.2459	.321	5.802	<0.001
5	*Vidaha* (burning)	.733	.4	.333	63.63	.8338	.215	2.167	<0.05
6	*Tvaka-Vaivarnyata* (discoloration of skin)	1.2	.7333	.466	38.88	.5164	.133	3.5	<0.01
7	*Sparsha-Asahishnuta*	3.066	.666	2.4	78.35	.9856	.254	9.43	<0.001
8	*Serum Uric Acid*	8.68	5.37	3.306	38.09	1.2652	0.3267	10.12	<0.001
9	*Hb%*	9.266	12.56	-3.3	35.61	.8409	.2171	15.2	<0.001
10	*ESR*	32.666	24	8.666	26.53	5.164	1.333	6.5	<0.001

CONCLUSION

The study shows that as described in ancient *Ayurveda* literature *Vata-rakta* is a disease characterised by pain, burning, swelling, and itching at particular site of the joints especially in meta-tarso-phalangeal joint and knee joints which is also described in case of Gout by contemporary literature. *Vata-rakta* is purely *Shakha-gata* disease which is caused by vitiation of *Vata* with disordered property of *Rakta* hence it is called *Vata* and *Rakta-vikara*. *Amrita Guggulu* has significant effect on the symptoms of *Vata-rakta* as described in our texts and this study has proved the same. *Amrita Guggulu* also has very significant effect on the level of serum uric acid, which is a prominent marker of diagnosis and prognosis of *Vata-rakta* with special reference to disease Gout.

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