



## **EFFECT OF GUDUCHYADI GHRITA IN THE MANAGEMENT OF VAATRAKTA**

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### **ABSTRACT**

According to Tridosha theory of ayurveda, vata dosha is an essential constituent of body. It is responsible for all movements, pressure, forces and impulses of human body. The vitiation of vata dosha is considered as the most dreadful cause of many diseases. Vatarakta is also a disease caused by vitiated vata and rakta dhatu. In this disorder vitiated vata and rakta get sammurchhita in sandhi sthana and rakta dhatu causes obstruction of vata dosha. This dosha-dushya sammurchhana results in Vatarakta. Symptomatically this disorder can be correlated to hyperuricemia or Gout. This present study is conducted to evaluate the effect of Guduchyadi Ghrita in management of Vaatrakta. This is a randomized open-ended single group trial. Total of 15 patients were selected on the basis of inclusion and exclusion criteria for this study. Guduchyadi Ghrita was administered in the dose of 10gm BD to each patient for duration of 8 weeks and follow up done on 28<sup>th</sup> and 56<sup>th</sup> day. The drug yielded a statistically significant improvement in symptoms of Vaatrakta. No adverse effects were noted throughout the course of this study.

**KEYWORDS:** Vaatrakta, Guduchyadi Ghrita, Hyperuricemia, Gout

## INTRODUCTION

The whole philosophy of *Ayurveda* is based on achieving, maintaining and promoting positive health. The equilibrium of various structural and functional units of the body named as *Dosha, Dhātu, Mala, Agni* and *Manas* results in health and disequilibrium causes disease.<sup>1</sup> Correction of disturbance in the body's milieu interior is the aim of the ayurvedic management. The health of an individual depends solely on his/her diet and lifestyle. As a result of rapid modernization, consumption of baked food, half fried vegetables etc. cause impairment in the digestion and metabolism of protein structure making human being vulnerable to many life threatening disorders like stroke or functional impairment like in joints disorders. Among these, Vatarakta is a commonest presentation, which is characterized by severe pain, tenderness, inflammation and burning sensation in the affected joints.<sup>2</sup> Vatarakta is a disease related with *khavaigunya* found in *Raktavaha srotas*, which includes vitiated *vata* and *rakta*.<sup>3</sup> Small joints of hand and feet are mainly affected in Vatarakta. According to modern medicine Vatarakta can be compared to Gouty arthritis. It is caused mainly due to improper purine metabolism in body. Purine is an important byproduct of incomplete protein metabolism, leading in to the excess of production of uric acid through their metabolic pathways viz. *de novo* and *salvage* pathways, reduced renal clearance of uric acid and urate increase their level in circulation. This increased level of Uric acid causes deposition of monosodium urate monohydrate crystals in joint space causing inflammatory arthritis.<sup>4</sup> The fundamental biochemical hallmark of gout is Hyperuricemia which result from increased production and decreased excretion of uric acid or from a combination of the two processes. Gout affects about 2.1 million people worldwide. Its prevalence is increasing;

moreover it is a potential signal for unrecognized co-morbidities like obesity, metabolic syndrome, diabetes mellitus, hypertension, cardiovascular disease, renal disease etc. there are variety of drug like uricosuric, NSAIDS which are used in modern medical science to treat the gouty arthritis symptomatically. These drugs have many potential adverse effects like vomiting, gastro-intestinal bleeding, hepatorenal toxicity etc. Ayurvedic management of Vatarakta aims at *Vatahara* and *Rakta prasada* measures and these measures helps to reduce the symptoms of this disease without any adverse side effects. *Guduchyadi Ghrita* is a predominant *Vata-Pitta shamaka*.<sup>5</sup> The present clinical study aims to evaluate the effect of *Guduchyadi Ghrita* in management of Vatarakta w.s.r. to primary and secondary hyperuricemia.

## AIMS AND OBJECTIVES:

- i. To assess the effect of *Guduchyadi Ghrita* in lowering the uric acid level in primary and secondary hyperuricemia (Vatarakta).
- ii. To assess the effect of the drug in relieving the signs and symptoms of *Ugra Vata rakta* (acute gout).
- iii. To evaluate the clinical efficacy of *Guduchyadi Ghrita* in fixed dose administration to patients of hyperuricemia and co-observation of pharmacological action or hazards in the clinical use.
- iv. To study the Vatarakta in context of hyperuricemia and review the available literature in Ayurvedic text and its correlation with Modern literature on hyperuricemia.

## MATERIAL AND METHOD

Patients were selected from the hospital OPD/IPD Department of *Kayachikitsa*

R.G.G.P.G. Ayurvedic Hospital Paprola. Patients were selected as per inclusion and exclusion criteria, irrespective of the sex, caste and religion with the sign and symptoms of Vatarakta and serum uric acid  $>7\text{mg/dl}$  in male or  $>6\text{mg/dl}$  in female. The minimum sample of 15 patients was assessed in the clinical study.

#### Ethical clearance

The study was cleared by ethical committee of the institute dated 10.06.2013 reference number IEC/2013/352. A written consent was taken from each patient before starting the study.

#### Inclusion criteria

- i. Patients willing and able to participate in trial.
- ii. Patient in the age group between 20 – 70 years of either sex.
- iii. Patients having serum uric acid level more than 7 mg/dl (male) and more than 6 mg/dl (female) with or without any associate features like joint pain and inflammation.
- iv. Not having any state mentioned in exclusion criteria.

#### Exclusion criteria

- i. Patients not willing for the trial.
- ii. Patients below age of 20 years and above 70 years of age.
- iii. Any other inflammatory joint disorder like RA factor, tubercular arthritis.
- iv. Patients suffering from chronic respiratory, cardiac, hepatic, hormonal diseases and dyslipidemia.
- v. Patients on chronic use of NSAIDS.
- vi. Patients having malignant disorder.
- vii. Mentally unstable and substance abuse patients.

Any other patient considered unfit for inclusion in trial.

#### Study Design-

The study was randomized open-ended single group trial.

Duration of trial- 8<sup>th</sup> week

Follow up after every 4-week i.e. one at the time of inclusion and second at 28<sup>th</sup> day and 3<sup>rd</sup> and final at 56<sup>th</sup> day.

#### Drug used:

Guduchyadi Ghrita<sup>6</sup>- prepared from

i. *Goghrita* - 1000 gm.

ii. *Guduchi kalka*- 250 gm.

iii. *Guduchi kwatha*- 4 lt.

iv. *Godugdha* - 4 lt.

Dosage- 10 gm. BD with warm water

Mode of administration - Oral route

#### Clinical assessment criteria

The patients were diagnosed on the basis of Ayurvedic and Modern parameters. Clinical signs and symptoms as described in classical texts<sup>7, 8</sup> were considered for the diagnosis of Vatarakta e.g.

i. *Sandhi Shula* (Joint Pain)

ii. *Sandhi Shotha* (Swelling of the Joint)

iii. *Raga* (Redness)

iv. *Tvaka Vaivarnya* (Discoloration of Skin)

v. *Sparshasahyata* (Tenderness)

vi. *Vidaha* (Burning Sensation)

vii. *Stabdghata* (Stiffness)

viii. *Shithilata* (Fatigue)

ix. *Hritspandana* (Palpitation)

x. *Sandhi Vikriti* (Joint Deformity)

xi. Serum uric acid was considered as investigation based diagnostic tool (serum uric acid more than 7 mg/dl in man and 6 mg/dl in female).

#### Clinical assessment

Using Visual Analog Scale (VAS) scores, we did clinical assessment of patients. Grade scoring of the above mentioned subjective criteria were also done: -

Grading	Symptoms
0	Absent /none
1	Mild
2	Moderate
3	Severe
4	Very severe

### Objective Assessment

To assess the effect of therapy on objective parameters serum uric acid level

was assessed 0, 28, and 56 day of treatment.

### Statistical Analysis-

The scores of criteria of assessment were analyzed statistically in form of mean score B.T. (Before treatment), A.T. (After treatment), (B.T. - A.T.) difference of mean, S.D. (Standard Deviation), S.E. (Standard Error). Students paired 't' test was carried out at  $p > 0.05$ ,  $p < 0.01$  and  $p < 0.001$ .

## RESULTS OF THERAPY

### 1. Effect of therapy on – Sandhi shoola

Days		Mean Score		SD±	SE±	t Value	p Value	% age of relief
		BT	AT					
Day 0 (BT)	Day 28	3.00	2.60	0.50	0.13	3.05	<0.01 S	
	Day 56		0.46	0.83	0.21	11.76	<0.001 HS	84.66%

### 2. Effect of therapy on – Sandhi shotha

Days		Mean		SD±	SE±	t value	p value	% age of relief
		BT	AT					
Day 0 (BT)	Day 28	2.66	2.13	0.51	0.13	3.50	<0.01 S	
	Day 56		0.60	0.88	0.22	7.59	<0.001 HS	84.61%

### 3. Effect of therapy on – Raga (erythema)

Days		Mean		SD±	SE±	t value	p value	% age of relief
		BT	AT					
Day 0 (BT)	Day 28	1.80	1.13	0.51	0.13	3.50	<0.01 S	
	Day 56		0.33	1.06	0.27	5.35	<0.001 HS	81%

### 4. Effect of therapy on – Tvaka Vaivarnya (Discoloration)

Days		Mean		SD±	SE±	t value	p value	% age of relief
		BT	AT					

Day 0 (BT)	Day 28	1.80	1.60	0.41	0.10	1.87	<0.05 S	
	Day 56		0.33	0.74	0.19	7.64	<0.001 HS	81%

**5. Effect of therapy on – Vidaha (Burning sensation)**

Days		Mean		SD±	SE±	t value	p value	% age of relief
		BT	AT					
Day 0 (BT)	Day 28	2.80	2.46	0.48	0.12	2.64	<0.01 S	
	Day 56		0.73	0.61	0.15	8.41	<0.001 HS	73.92%

**6. Effect of therapy on – Stabdhata (Stiffness)**

Days		Mean		SD±	SE±	t value	p value	% age of relief
		BT	AT					
Day 0 (BT)	Day 28	2.20	1.46	0.45	0.11	6.20	<0.001 HS	
	Day 56		0.33	0.74	0.19	9.7	<0.001 HS	85%

**7. Effect of therapy on – Sparshasahyata (Tenderness)**

Days		Mean		SD±	SE±	t value	p value	% age of relief
		BT	AT					
Day 0 (BT)	Day 28	2.73	2.26	0.51	0.13	3.50	<0.01 S	
	Day 56		0.60	0.59	0.15	14.78	<0.001 HS	78.02%

**8. Effect of therapy on Hritspandana (Palpitation)**

Days		Mean		SD±	SE±	t value	p value	% age of relief
		BT	AT					
Day 0 (BT)	Day 28	2.06	1.66	0.51	0.13	3.05	<0.01 S	

	Day 56		1.53	0.51	0.13	4.00	<0.01 S	25.8%
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**9. Effect of therapy on Sandhi Vikriti (joint deformity)**

Days		Mean		SD±	SE±	t value	p value	% age of relief
		BT	AT					
Day 0 (BT)	Day 28	1.06	1.06	0	0	0	<0.01 S	
	Day 56		1.06	0	0	0	<0.01 S	0%

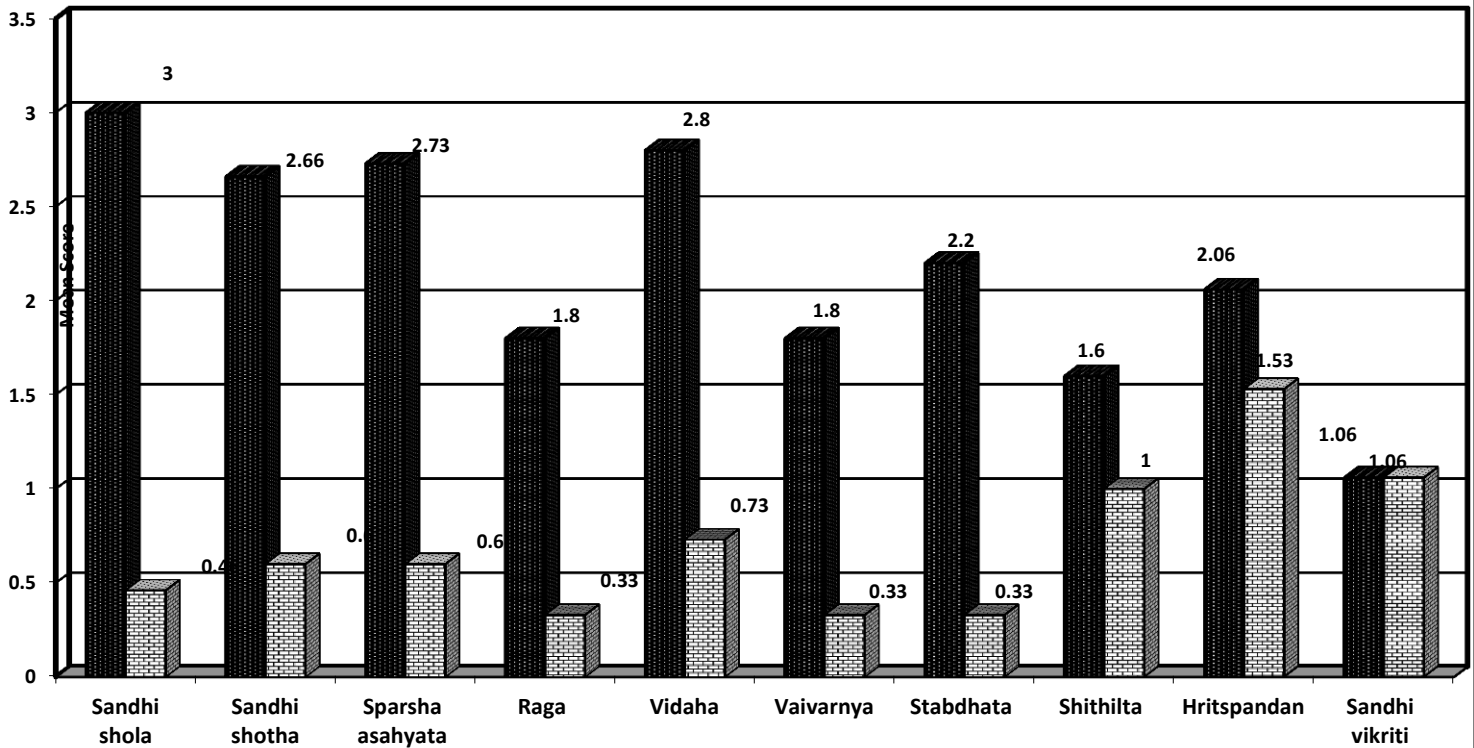
**10. Effect of therapy on Serum Uric acid**

Days		Mean		SD±	SE±	t value	Remarks	% age of relief
		BT	AT					
Day 0 (BT)	Day 28	7.9	7.1	0.84	0.60	5.37	<0.01 S	
	Day 56	0	5.6	0.81	0.21	10.88	<0.001 HS	30%

**11. Effect of therapy on clinical features of Vatarakta from 0-56 days**

Clinical features	Mean score		%age of Relief	SD±	SE±	t value	p value
	BT	AT					
Sandhi shola (joint pain)	3.00	0.46	84.66%	0.83	0.21	11.76	<0.001
Sandhi shotha (joint swelling)	2.66	0.60	84.61%	0.88	0.22	07.59	<0.001
Sparshasahyata (Tenderness)	2.73	0.60	78.02%	0.59	0.15	14.78	<0.001
Raga (Redness)	1.80	0.33	81.66%	1.06	0.27	05.35	<0.001
Vidaha (Burning sensation)	2.80	0.73	73.92%	0.61	0.15	14.64	<0.001
Vaivarnya (Discoloration)	1.80	0.33	81.00%	0.74	0.19	07.64	<0.001
Stabdhata (Stiffness)	2.20	0.33	85.00%	0.74	0.19	09.70	<0.01
Shithilata (Fatigue)	1.60	1.00	37.50%	0.63	0.16	03.67	<0.01
Hritspandana (Palpitation)	2.06	1.53	25.80%	0.51	0.13	04.00	<0.01
Sandhi Vikriti (Joint deformity)	1.06	1.06	0%	0	0	0	>0.05

Effect of therapy on clinical features of Vatarakta from 0-56 days



### DISCUSSION:

As evident from the clinical outcome, the results of treatment are highly significant and majority of patients improved symptomatically. The probable mode of action of drug may be summarized on the basis of following criteria.

1. **On the basis of Rasa:** - *Tikta* and *Kashaya Rasa* are present in Guduchi and *Madhura rasa* is present in Goghrita & Godugdha. Therefore three Rasa, which are present in Guduchyadi Ghrita, are all *pitta shamaka*. As etiological factors and management of *Pitta* and *Rakta* are concurrent. So, these rasa also combat vitiation of *Rakta dhatu*.
2. **On the Basis of Guna:** - *Snigdha*, *guru* & *sheeta guna* are dominantly present in all ingredients of Guduchyadi Ghrita and *Vata* has

*Ruksha* and *Laghu guna*. So *Snigdha*, *guru* and *sheeta guna* of drug counter the *Laghu* and *Ruksha guna* of *vata* and effective in management of Vatarakta.

3. **On the basis of Veerya:** - As far as the *veerya* is concerned; *Ushna veerya* is present in Guduchi, which have *vata shamaka* properties. *Ushna veerya* cures vitiation of *vata dosha*. *Sheeta veerya* of Goghrita and Godugdha balance the *pitta dosha* (*Rakta dosha*).
4. **On the basis of Vipaka:** - *Madhura Vipaka* is present in all drugs, which is *vata-pitta shamaka*. Ultimately it pacifies the aggravation of *Vata* and *Rakta*.
5. **On the basis of dosha Karma:** - Conclusive *dosha karma* of drug is *Tridosha shamaka* & *vata-pitta shamaka*. After analyzing specificity of *doshas*, *vata shamaka* property is



more prominent which helps to cure vitiation of *vata*.

6. *Aama pachana* property of *Guduchi* due to *katu, tikta rasa* and *Ushna veerya*, acts on vitiated *Agni*.
7. *Guduchi* have *tikta rasa*, possesses *Deepan, Pachana* and *Rochan* properties and *Goghrita* work as a potent *Agni Vardhaka*. So it help in the improvement of the general condition of health and thus strengthen the whole body as well as joints. On other hand *tikta rasa* also possesses *Lekhana* property, so it helps in the weight reduction of the patients and help in management of joint disorders.
8. Due to *tikta rasa* and *Madhura Vipaka Guduchi* posses *Jwarhara* and *Daha Prashamana* properties, it act as anti-inflammatory agent and reduce the pain and swelling of the joints.
9. Due to *Snigdha, Sheeta, Guru* and *Bahala guna*, which is *Asthitulya guna*. It act as *Brimhana* and nourishes the *Asthi dhatu* and also control the *vata dosha* and *pitta dosha*. Hence help for nourishment and growth of bone.
10. *Madhura rasa* and *sheeta veerya* of cow milk and Ghee counters the *pitta dosha*.

#### **CONCLUSION:**

This study reveals the effectiveness of *Guduchyadi Ghrita* in most of the cases in present clinical trial. The study was a randomized open-ended clinical trial. Objective of this study was to assess the effectiveness of *Guduchyadi Ghrita* on *Vatarakta* and there were no adverse effect noted throughout the study. Primary data collected from this study showed a significant improvement but to validate a more

precise outcome about the effectiveness of this drug there is a need to evaluate this drug on larger population.

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