

# A Clinical Study to Evaluate the Efficacy of Yashtyadi Ksheera Basti in the Management of Vatarakta with Special Reference to Hyperuricemia

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## ABSTRACT

### Background

Hyperuricemia affects approximately 15.2% of men and 6.80% of women and around 11.1% of overall population. Vatarakta is correlated with Hyperuricemia is an acute/chronic inflammatory condition of joint takes place predominantly where serum uric acid is raised beyond 6.8mg/dl. It is estimated as much as 21% of the general population and 25% of hospitalized patients have asymptomatic hyperuricemia.

### Objectives

1. Conceptual study of Yashtyadi Ksheera Basti and Vatarakta.
2. To clinically evaluate the efficacy of Yashtyadi Ksheera Basti in Vatarakta w.s.r. to Hyperuricemia.

### Methodology

- **Study Design:** An observational clinical study with pre, mid and posttest design.
- **Intervention:** 30 patients of Vatarakta (hyperuricemia) were randomly selected based on the signs and symptoms of Vatarakta (hyperuricemia). Patients were assigned into a single group and subjected to Yashtyadi Ksheera Basti for 8days in Yogabasti pattern.
- Data was collected before intervention i.e. 0<sup>th</sup> day, after Basti Karma i.e. on 9<sup>th</sup> day and after Parihara Kala i.e. 16<sup>th</sup> day.
- Scoring was given to each of the symptoms using gradation index
- Results were statistically analysed before, during and after intervention by using descriptive and inferential statistics, 't' test-paired/dependent t test.

### Results

- Statistical results on parameters showed highly significant result on symptoms of Daha (Burning sensation), Shoola (Pain), Kandu (Itching), Stambhata (Stiffness), Toda (Pricking pain) and Shwayatu (Swelling) on 9<sup>th</sup> day (i.e. after Bastikarma) and on 25<sup>th</sup> day (i.e. after Pariharakala) with 'p' value of <0.0001 and markedly significant result on symptom of Shyava varnata (Blackish discoloration) with 'p' value 0.011.
- Statistical result on parameter showed highly significant result in reduction of Serum Uric acid with 'p' value <0.0001.

### Conclusion

The Yashtyadi Ksheera Basti is found to be effective and safe in the management of Vatarakta (Hyperuricemia).

**KEYWORDS:** Bastikarma, Vatarakta, Yashtyadi Ksheera Basti, Hyperuricemia

## INTRODUCTION

Hyperuricemia is a common disorder that affects patients of all ages and genders. The most common manifestation of hyperuricemia is gout, which can be very

painful Hyperuricemia can be classified as symptomatic or asymptomatic.

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Recently, there has been a growing interest in the role of Uric Acid in a variety of health disorders. Although a majority of the asymptomatic patients never develop changes that could be attributed to urate crystals deposition, it has been found that elevated serum Uric Acid levels may cause silent tissue damage and increase the risk of several diseases such as hypertension, dyslipidemia, obesity, metabolic syndrome, type 2 diabetes, cardiovascular disease and chronic renal disease<sup>1</sup>.

Furthermore, hyperuricemia is a prognostic marker of mortality in patients with stable coronary artery disease treated with per cutaneous coronary interventions, patients with chronic obstructive pulmonary disease and terminally ill cancer patients.

In critically ill patients in intensive care units, hyperuricemia is an early marker of the severity of sepsis, as well as a predictor of acute kidney injury, acute respiratory distress syndrome, need for mechanical ventilation use and mortality.

Whether asymptomatic hyperuricemia should be treated and in which patients, what the Uric Acid threshold for starting urate-lowering therapy should be, whether routinely testing for Uric Acid serum level an appropriate approach.

Based on the signs and symptoms we can compare hyperuricemia to the *Vatarakta* in wide range. It is such a type of disorder which has limited medical management in any type of therapeutics. The drugs like Uricosurics and NSAIDs are used to treat the Gouty arthritis symptomatically which have many adverse effects.

In the context of *Vatarakta Chikitsa* both, *Acharya Charaka* and *Vagbhata* have indicated *Ksheerabasti*. They consider it as the 1<sup>st</sup> and best line of treatment<sup>2</sup>.<sup>3</sup> Though *Ksheerabasti* is administered continuously it will not aggravate the *Vata Dosha* because it contains *ksheera* as the main ingredient which is having the properties like *Madhura Rasa, Snigdha Guna & Sheetha Veerya*. Not much of the studies has

been done in the management of *Vatarakta* with *Ksheerabasti* and so the study was taken up.

For the present study, *Ksheera Basti* prepared with *Yastimadu Ksheerapaka, Madhu, Murchita Gritha* and *Kalka of Madhanaphala+ Shatapuspa+ Pippali Churna* is used.<sup>4</sup>

**Inclusion Criteria:**

- Patients with Lakshana of *Vatarakta* were included.
- Age group between 20 - 60 years.
- Patients will be selected irrespective of sex, religion, occupation, habitat etc
- Patient should be *Yogya* for *Basti* procedure
- Sr. uric acid level should be more than 6 mg/dl in females and more than 7.0 mg/dl in males<sup>5</sup>

**Exclusion Criteria:**

- *Basti Ayogya* patients will be excluded
- Sever illness patient like Cancer, TB, etc. will be excluded
- Known case of uncontrolled DM, HTN and medical renal disorder will be excluded

**Subjective Criteria<sup>6</sup>:**

- *Kandu* (Itching )
- *Daha* (Burning Sensation )
- *Shoola* (Pain )
- *Shyava Varnatva* (Discoloration )
- *Stambata* (Stiffness)
- *Shwayatu* (Swelling)
- *Toda* (Tenderness)

**Objective Criteria:**

- Sr. Uric Acid

**OBSERVATION AND RESULTS**

The data was collected and scoring was given to each of the symptoms using gradation index. The parameters were assessed before, after and follow up intervention. Results were analysed statistically using student paired 't' test, descriptive and inferential statistics were applied. The results were analysed individually and overall assessment was done on the basis of previously mentioned criteria.

**Table No.1: Showing the statistical analysis of Shoola (Pain )**

| Shoola | Mean | SD   | SE   | t - value | P - value | Remark |
|--------|------|------|------|-----------|-----------|--------|
| BT     | 1.8  | 0.64 | 0.11 | -         | -         | -      |
| AT     | 1.2  | 0.69 | 0.12 | 12.04     | <0.0001   | H.S    |
| FU     | 0.8  | 0.64 | 0.11 | 13.40     | <0.0001   | H.S    |

**Table No.2: Showing the statistical analysis of Kandu (Itching)**

| Kandu | Mean | SD   | SE   | t - value | P - value | Remark |
|-------|------|------|------|-----------|-----------|--------|
| BT    | 0.4  | 0.49 | 0.09 |           |           |        |
| AT    | 0.1  | 0.30 | 0.05 | 3.525     | =0.001    | H.S    |
| FU    | 00   | 00   | 00   | 4.396     | =0.0001   | H.S    |

**Table No.3: Showing the statistical analysis of Daha (Burning sensation)**

| Daha | Mean | SD   | SE   | t - value | P- value | Remark |
|------|------|------|------|-----------|----------|--------|
| BT   | 0.76 | 0.72 | 0.13 |           |          |        |
| AT   | 0.13 | 0.34 | 0.06 | 5.64      | <0.0001  | H.S    |
| FU   | 00   | 00   | 00   | 5.76      | <0.0001  | H.S    |

**Table No.4: Showing the Statistical Analysis of Stambata (Stiffness)**

| Stambata | Mean | SD   | SE   | t - value | P-value | Remark |
|----------|------|------|------|-----------|---------|--------|
| BT       | 1.13 | 0.73 | 0.13 |           |         |        |
| AT       | 0.66 | 0.60 | 0.11 | 5.03      | =0.009  | H.S    |
| FU       | 0.24 | 0.43 | 0.07 | 6.96      | <0.0001 | H.S    |

**Table No. 5: Showing the statistical analysis of Shwayatu (Swelling)**

| Shwayatu | Mean | SD   | SE   | t-value | P-value | Remark |
|----------|------|------|------|---------|---------|--------|
| BT       | 0.63 | 0.80 | 0.14 |         |         |        |
| AT       | 0.36 | 0.55 | 0.10 | 3.525   | =0.002  | H.S    |
| FU       | 0.20 | 0.40 | 0.07 | 4.064   | =0.0002 | H.S    |

**Table No.6: Showing the statistical analysis of Shyava Varnata (Blackish discoloration)**

| Shyava varnata | Mean | SD   | SE   | t-value | P-value | Remark |
|----------------|------|------|------|---------|---------|--------|
| BT             | 0.3  | 0.46 | 0.08 |         |         |        |
| AT             | 0.16 | 0.37 | 0.06 | 2.69    | = 0.04  | S      |
| FU             | 0.10 | 0.30 | 0.05 | 3.525   | = 0.011 | S      |

**Table No.7: Showing the statistical analysis of Toda (Pricking Pain)**

| Toda | Mean | SD   | SE   | t-value | P-value | Remark |
|------|------|------|------|---------|---------|--------|
| BT   | 0.80 | 0.76 | 0.13 |         |         |        |
| AT   | 0.46 | 0.57 | 0.10 | 3.889   | =0.0006 | H.S    |
| FU   | 0.23 | 0.43 | 0.07 | 5.187   | <0.0006 | H.S    |

**Table No. 8: Showing the statistical analysis of Sr. Uric acid**

| Sr. Uric acid | Mean | SD   | SE   | t-value | P-value | Remark |
|---------------|------|------|------|---------|---------|--------|
| BT            | 1.6  | 0.66 | 0.12 |         |         |        |
| AT            | 0.7  | 0.67 | 0.12 | 13.72   | <0.0001 | H.S    |
| FU            | 0.4  | 0.62 | 0.11 | 15.703  | <0.0001 | H.S    |

**Table No.9: showing distributions of patients by different grade to overall response**

| Response    | AT | %     | FU | %  |
|-------------|----|-------|----|----|
| No response | 0  | 0     | 0  | 0  |
| Poor        | 4  | 13.33 | 0  | 0  |
| Moderate    | 17 | 56.67 | 9  | 30 |
| Good        | 9  | 30    | 21 | 70 |

## DISCUSSION

**Shoola (Pain):** 97% included under this study presented with the feature of Shoola. only 1 Patient not had pain (non symptomatic hyperuricemia) By this it can be considered that it is a main symptom in Vatarakta.

The reduction in the pain was highly significant with P-value <0.0001.

This may be due to the Analgesic & Corticosteroid action present in Yashtimadhu of Basti.

**Daha:** 43.33 % of patients presented with the symptom of Daha. There was a highly significant

reduction in Burning Sensation after the treatment with P-value <0.0001.

The burning sensation is reduced due to the Vata-Pittahara & Sheeta Veerya properties of Yastimadu and Ksheera properties.

**Kandu:** 40 % of patients presented with the symptom of Kandu. There was a highly significant reduction in itching sensation with P-value is =0.001.

The Kandu is reduced due to the Kandugna & SheethaVeerya properties of Yastimadu.

**Shwayatu:** This symptom was found in 44% of patients, this proves the infected status of the disease.

Reduction in Swelling is highly significant with P-value 0.002.

This may be due to the analgesic, anti-inflammatory & corticosteroid action of Yashtimadhu

**Shyava varna:** 9 (30%) patients presented this symptom, Reduction in Shyava varna is markedly significant after Bastikarma with P-value 0.04 and significant after follow up with P-value 0.011.

This result may be due to the Pittahara & Raktaprasadaka action of Yashtimadhu.

**Stambata:** 80% patients have this symptom, reduction in Stambata is highly significant with P-value 0.009, after follow up < 0.0001.

This may be due to the Shroto Shodana action of Madan phala and Pippali and corticosteroid action of Yastimadu.

**Toda:** Out of 30 patients 60% of people presented with the feature of Toda.

Reduction of Toda is highly significant with P-value <0.0006.

This may be due to the Analgesic & Corticosteroid action present in Yashtimadhu Basti.

#### **Effect on Serum uric acid:**

All the patients included under this study presented with the sign of increased uric acid level this we can consider the cardinal sign of this Hyper uricemia (Vatarakta).

Among the 30 patients of raised Serum uric acid values, after treatment 11 (36.67%) patients Serum uric acid came to the normal values. But in followup 20 (66.67%) patients serum uric acid came to the less than 6 mg/dl group. It means with in the normal range, Result obtained in the mean value from before intervention to after intervention showed statistically highly significant with P value <0.0001.

In this study maximum of 4.6mg/dl of Uric acid was reduced, This shows that Yastyadi ksheera basti is beneficial in reducing the Serum uric acid levels.

#### **Discussion on Probable mode of action of Ksheera basti:**

The disease Vatarakta originates in Pakwasaya, so it is the nearest way to expel the Doshas through Basti.

In the context of Vatarakta chikitsa both Acharya Charaka & Vagbhata have explained, as the vitiated Doshas along with Mala should be expelled out by the administration of Sagritha Ksheerabasti & there is

no other therapeutic measure comparable to Ksheerabasti in the management of this disease.

Though, Ksheera basti is administered continuously it will not aggravate the Vatadosha because it contains Ksheera as the main ingredient having the properties like Madhura rasa, Snigdha guna & Sheetha veerya.

Ksheerabasti administered was retained for about 10-30 minutes. The active principles of Ksheera basti travels from Pakwasaya & get absorbed in the circulation. The chemical reaction sequence originated in Pakwasaya passes from cell-to-cell, ultimately in the entire body.

2/3<sup>rd</sup> of Serum uric acid is excreted through the gut and the remaining 1/3<sup>rd</sup> through the kidneys, so Ksheera because of its laxative action expels 2/3<sup>rd</sup> of the uric acid through the gut and remaining 1/3<sup>rd</sup> of the uric acid is excreted by the Mutrala action through the urine.

Along with this high dose administration of Yashtimadhu will act as Analgesic, Anti-inflammatory and exhibits corticosteroid action, this might have reduced the Pain, swelling and tenderness.

These observations suggest that this therapy not only produces symptomatic relief but also control the disease process and may cause long lasting effect.

#### **CONCLUSION**

- Based on symptomatology of Vatarakta can be equated with Hyper uricemia of contemporary medicine.
- The study was an observational, which was conducted on 30 patients. Among them, maximum numbers of patients were males and incidence of Hyperuricemia was noticed more in age group above 40 years.
- Statistically this study was very significant to lower the Serum Uric Acid after the Basti karma.
- By the Yasthyadi Ksheera Basti, Kandu, Daha, Shoola, Sthambata, Shwayatu and Toda are completely reduced and statistically also found highly significant.
- No complications were observed during the study.
- It is relatively safe and cost effective treatment modality for the management of Vatarakta which is evident from the results.
- It can be concluded that the Yastyadi Ksheera Basti is found effective and safe in the management of Vatarakta, this can reduce most of the signs and symptoms of the disease at highly significant level.



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