

**A CLINICAL TRIAL OF KALA BASTI WITH ASHWATTHA SIDDHA
KSHEERA BASTI AND ASHWATTHA SIDDHA TAILA MATRA BASTI IN
VATARAKTA**

¹*Vd. Deshpande Sushrut Devendra and ²Dr. Avhad Vandana Anil

¹MD Panchakarma Assi. Prof.- Suamtibhai Shah Ayurved Mahavidyalaya, Hadapsar, Pune.

²MD Panchakarma, Ph. D Panchakarma Asso. Prof.- Department of Panchakarma Suamtibhai Shah Ayurved Mahavidyalaya, Hadapsar, Pune.

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***Corresponding Author**

Dr. Vd. Deshpande

Sushrut Devendra

MD Panchakarma Assi.

Prof.- Suamtibhai Shah

Ayurved Mahavidyalaya,

Hadapsar, Pune.

ABSTRACT

Background- Basti is indicated treatment in Vatarakta. Ashwattha is also mentioned in Vatarakta. **Aim-** To study the effect of Kalabasti with Ashwattha siddha ksheera basti and Ashwattha siddha taila matra basti in Vatarakta.

Objective- 1) To study Shoola shamana and Shotha shamana effect of Ashwattha siddha ksheera basti and Ashwattha siddha taila matra basti in Vatarakta.

2) To study the effect of Ashwattha siddha ksheera basti and Ashwattha siddha taila matra basti on Serum Uric acid levels.

Materials and Methods- This is single arm open clinical trial including 31 patients, who were showing classical signs and symptoms

of Vatarakta as mentioned in Charaka Samhita. VAS scale was applied to evaluate pain, swelling, local temperature and burning. Joint score and tenderness was calculated. Lab investigations were done to calculate Serum Uric acid levels, ESR, Hb%, WBC count. Grip strength was calculated for hand fingers. Management- Ashwattha siddha ksheera basti and Ashwattha siddha taila matra basti was given in Kala basti format for 15 days. Initial assessment was done on 0th day with follow up on 7th, 15th, 30th day. **Observations and Results-** It was observed from the results and statistical analysis by Wilcoxon signed rank test, paired t test, Chi-square test, showing 89.9% relief in total score, indicating the significance of the treatment. **Conclusion-** Kalabasti with Ashwattha siddha ksheera basti and Ashwattha siddha taila matra basti is significantly effective in Vatarakta.

KEYWORDS: *Vatarakta, Basti, Ashwattha.*

INTRODUCTION

Ayurveda is the oldest documented science in the world of medicine. It has its own approach about way of living. It literally means 'Way of Life'. It not only provides treatment of the disease but also it tells about how to eradicate it. Hence it is also called as 'Science of Life'.

In our ancient literature, healthy body is said as the main tool to achieve all 4 *Purusharthas* i.e. *Dharma, artha, kama, moksha*. In *Mahabharata*, *rogi avastha* is termed as *Mritakalpa*. It is experienced that, in *Rogiavastha* our body movements are restricted due to agonizing pain and when locomotory organs are involved, locomotion gets hampered due to agonizing pain, giving rise to restricted movements.

There are several joint related diseases mentioned in *Ayurveda*. *Vatarakta* is one of them. Vitiated *Vata dosha* along with *Rakta dhatu* gets seated at *Parva sandhi* causing severe pain at joint. The pain is so severe that it can be compared to rat bite pain (*Akhu visha*). It also causes numbness (*Supti*), discoloration (*Vivarnya*), tingling (*Chimachimayana*) at the joint spaces. It can be compared with Gout in modern medicine.

The use of NSAIDS, Corticosteroids and Uricosuric agents is the basic line of treatment given in modern medicine to treat Gout. But long term use of these drugs can hamper renal functions. Hence there is a need to find alternate therapy to treat the disease with minimal adverse effects.

In *Vatarkta chikitsa adhyaya*, *Charakacharya* mentioned about *Basti, Raktamokshana, Virechana, Snehana, Parisheka, Lepa* as a line of treatment in *Vatarkta*. *Basti* is mentioned as best treatment in *Vatarakta* treatment.

Kala basti is the format of *basti* in which therapy is given for 15 days. Beginning with oil enema, alternate day oil and decoction enemas are given for 12 days and on last 3 days, only oil enemas are given.

Ashwattha (*Ficus religiosa* Linn.) was used in the study. It is *Kashaya* (astringent) in *rasa* and *Katu vipaki*. It has *Rakta shodhana* property by its Tannins content. *Sushrutacharya* has mentioned about use of *Panchavalkala siddha ksheera* in the treatment of *Vatarakta* in *Mahavata vyadhi adhyaya*.

Global prevalence of Gout is 5.2%. In attached hospital, the prevalence found was 1.9%, hence sample size of 30 patients was calculated. Total 31 patients completed the trial. The patients were clinically diagnosed and examined and those satisfying inclusion criterias were included. VAS scale was applied to assess pain, swelling, temperature, burning sensation. Joint score was also calculated indicating actively affected joints. Serum uric acid, WBC count, ESR, Neutrophil count, Hb% were taken as a biological markers in objective criterias along with Grip strength.

33 patients were included, out of which 1 patient developed adverse effects of *Basti*. Rescue medication was given to the patient and was withdrawn, and 1 patient was withdrawn due to lack of follow ups. Hence 31 patients completed the trial.

The study was conducted at single centre and on small sample size. This study can be calculated on large sample size and in multiple centres and the efficacy of the drug can be established. Other effects of drug can also be tested by conducting study on larger scale.

MATERIALS AND METHODS

Literary material- The literary material of the present study was taken from classical texts, research articles in ayurvedic indexed journals, related information available on internet.

Materials neede for *Ashwattaha siddha ksheera basti* and *Ashwattha siddha taila matra basti*-

- a) Drug- *Ashwattha siddha taila*, *Ashwattha churna*, *TilaTaila*, *Go dugdha*, *Go ghruta*, *Madhu*
- b) Instruments-
 1. Utensils to take oil
 2. Burner
 3. Syringes for *anuvasana Basti*- 100 cc
 4. Syringes for *NiruhaBasti*- *Basti Putaka* (enema pot)
 5. Simple rubber catheter 10/11 no.

Preparation of *Ashwattha siddha taila*

1. Content of *Ashwattha SiddhaTaila*:
 - a. **Decoction of *Ashwattha*.**
 - b. ***Sneha Dravya* – *Tila Taila*(Sesame oil)..**
2. In *Ashwattha SiddhaTaila*:

Kalka: Sneha: Decoction

1 : 4 : 16

3. *Sneha* was prepared as per *snehpaka*.
4. *Ashwattha Siddha Taila* was used for *anuvasana Basti*.

Preparation of *Ashwattha ksheerapaka*

Ashwattha Siddha Ksheera paka was prepared according to *Sharangdhara Samhita*.

▪ Method of mixing

1. 32 grams of *Ashwattha Churna* was taken and 480 ml of milk and 480ml of water was added to it.
2. It was heated on medium burner till it remained 480 ml.
3. The decoction was filtered.
4. 80 grams of honey was taken in a container and 5 grams of rock salt was added to it and was mixed properly.
5. 40 ml of ghee and 40 ml of sesame oil was added to the above mixture and was stirred.
6. Lastly decoction was added and was stirred to make a homogenous mixture.

▪ Study type-Single arm open clinical trial.

Sampling Method: Non probability Sampling Method-

30 Patient of *Vatarakta* have been purposefully selected in OPD/IPD basis irrespective of gender, economic status, religion, occupation.

Inclusion criteria	Exclusion criteria	Withdrawal criteria
1) Patient showing textual signs symptoms of <i>Vatarakta</i> . 2) Gender- Both 3) Age Group- 20-60 yrs 4) <i>Basi Arha</i>	1) Pregnancy and lactation. 2) All other arthritic diseases than <i>Vatarakta</i> . 3) Known cases of any major illness e.g. TB, AIDS, Cancer. 4) <i>Basti Anarha</i>	1) Patients willing to quit in between project are allowed to quit. 2) If any serious adverse effect develop.

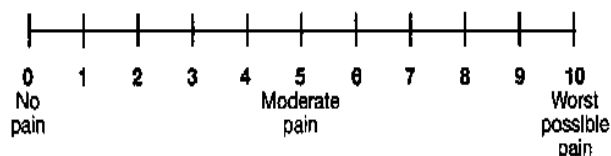
▪ Assessment criteria

Subjective criteria

Criteria	Score	Interpretation
Joint score	3	More than 5
	2	Between 3-5
	1	At least 2
	0	No joint involvement

Tenderness	3	Severe
	2	Moderate
	1	Mild
	0	Tenderness absent
Functional score	3	Unable
	2	With the help of another person
	1	Able to do with difficulty
	0	Can do without difficulty

3. Pain, swelling, local temperature and burning (By Visual Analogue Scale)



5-44mm	Mild
45-74mm	Moderate
75-100mm	Severe

4. Episode of numbness

Present	1
Absent	0

5. Overall Score

1-8	Mild- Grade1
9-16	Moderate- Grade2
17-24	Severe-Grade3

Objective criteria

1. Grip strength

Will be measured by recording the pressure that patient can exert for squeezing a partially inflated cuff (20 mmHg) of a standard sphygmo manometer for hand fingers only.

Poor	Below 38 mm Hg
Moderate	40-140 mm Hg
Mild	142-280 mm Hg
Normal	Above 280 mm Hg

2. Lab investigations

	Before treatment	After treatment
Hb%		
Wbc count		
Neutrophil count		
ESR		
Serum Uric acid		

OBSERVATION

Criteria	Median		% effect	Result
	BT	AT		
Joint score	3	0	90.5	Significant
Pain	8	1	88.3	Significant
Tenderness	3	0	91.6	Significant
Swelling	7	1	89.0	Significant
Temperature	7	1	91.6	Significant
Functional score	2	0	90.8	Significant
Total score	29	3	89.9	Significant

▪ OBJECTIVE CRITERIA ANALYSIS

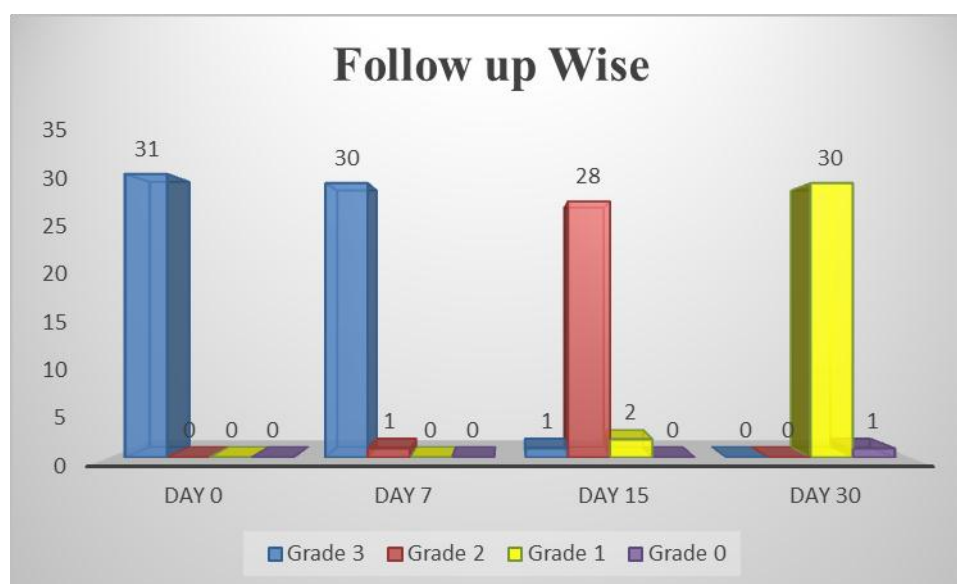
Criteria	Mean	
	BT	AT
Grip strength	35.5	118.8
Uric acid	7.0	4.3
Hb%	11.3	11.5
WBC	10323.9	5556.1
ESR	12.7	5.6

Follow up wise results chart

- Follow up wise result of treatment.

Grade	Day 0	Day 7	Day 15	Day 30
Grade 3	31 (100%)	30 (96.7%)	1 (3.3%)	0 (0%)
Grade 2	0 (0%)	1 (3.3%)	28 (90.3%)	0 (0%)
Grade 1	0 (0%)	0 (0%)	2 (6.4%)	30 (96.7%)
Grade 0	0 (0%)	0 (0%)	0 (0%)	1 (3.3%)

Graph -The effect of *Basti* on Follow up wise result of Treatment



DF	Chi-Square	P-Value
3	8.203	0.042

To test significance of result day we have used Chi-square test. P-Value is less than 0.05 hence effect is significant.

DISCUSSION

Vatarakta is considered as *Aavarana Janya VataVyadhi*. Due to properties of *Sukshmatva* and *Saratva* of *Vata* and *Dravatva*, *Snigdhtva* properties of *Rakta Dhatu*, they spread all over body.

This spreading is facilitated by *Vyana Vayu*.

The *Doshas* get lodged in *Sandhis*. The main and first site of manifestation is *Pada Moola* (1st metatarso- phalangeal joint) and then *Hasta* and *Pada* and then spread upwards.

The process of spreading of manifestation can be understood by the similar nature of rat poison (*Akhu visha*).

At this stage clinical features start to appear and patient shows main clinical feature *Parva Sandhi Shoola*.

In some scholarly articles *Vatarakta* is compared with hyperlipidaemia, atherosclerosis, Reynaud's phenomenon, Burger's disease.

In this type of pathology, there is vitiation of *Medo Dhatu* and it is creating obstruction to the normal flow of *Vata Dosha* in all the *Sandhis*.

It gets seated at *Parva Sandhi* due to complexity of joint structure and difficulty in flow, causing pain, swelling and stiffness at joint spaces.

Discussion on drug

- Among the drugs of *Ashwattha Siddha Ksheera Basti*, *Ashwattha* is *Kashaya- Madhura Rasatmaka*, *Katu Vipaki*, *Sheeta Veerya*, *Guru Gunatmaka*, *Kapha-Pitta hara* drug.

Rakta Shodhana guna

- It has property of blood purification due to the property of free radicals generation during oxidative stress is reduced due to reduction in superoxide dismutase and enhanced catalase reduction. Increase generation of oxygen radicals.
- Hence can be included in *Rasayana* group. This helped as *Rakta Shodhana* in *Vatarakta*.

Rakta prasadana guna

- High rate of wound contraction, decreased period of epithelization, high skin breaking strength due to tannins. Hence it has anti ulcer function. In *Uttana avastha* of *Vatarakta*, there is involvement of skin and connective tissue. *Twacha* is said to be *Rakta Prasadaja* in *Ayurveda*. Hence *Ashwattha* was used in present study.

Analgesic (Shoolaghna) effect

- Reduction in number of writhing, sensitization of nociceptive receptors inhibits synthesis or action of prostaglandins, hence acts as analgesic. In *Vatarakta*, as joint pain is present as major symptom, *Ashwattha* was used in present study.

Anti inflammatory (Shothahara) effect

- It also reduces the production of lipopolysaccharides and NO and cytokines, such as tumor necrosis factor (TNF) alpha, interleukin beta, IL-6 in microglial cells. It also attenuates the expression of mRNA and proteins of inducible nitric oxide synthesis and pro inflammatory cytokines, suggesting blockage of transcription level. Hence it was used in present study, as *Vatarakta* presents signs of inflammation like, swelling, temperature, pain and loss of function.
- **Local temperature (*Ushna sparsha*)**
- Localized raised temperature is an effect of inflammation in *Vatarakta*. It was observed in present study, local temperature reduced after *Basti* administration due to *Sheeta veerya* of *Basti*.

Grip strength

- Lack of grip strength is due to loss of function of joints which is enlisted as sign of inflammation. *Ashwattha* has the property to work as antioxidant and to reduce inflammation. In the present study, it was observed that grip strength increased after *Basti* administration. It also helped to raise the functional score of joints.

In *Ashwattha Siddha Ksheera Basti*, cow milk, ghee, honey also gets added. The effect of these contents on *Vatarakta* is discussed as follows.

Godugdha (Cow milk)

1. As it is *Madhura Rasatmaka*, *Madhura Vipaki*, *Sheeta veerya*, *Kapha Vardhana*, *Vata-Pitta Shaman* drug.

2. It also plays an important role in *Rakta Shodhana*.
3. Cow milk contains Vit.A which helps in growth and development of bones, skin which are the major components of *Vatarakta Vyadhi*.
4. It also contains Vit.E which acts as antioxidant and helps to protect the cells from damage.
5. Vit. B1 present in it helps to regenerate nervous tissue which can be damaged in *Vatarakta Vyadhi*.

Madhu (Honey)

1. According to *Ayurveda*, *Madhu* is *Madhura- Kashaya Rasatmaka, Madhura Vipaki, Ushna veerya, Kapha hara*.
2. It also has the property called '*Yogavahee*', means it can get the properties of the drug that is mixed with it and can carry that drug to the targeted site; hence it is used in *Basti*.
3. Honey contains small amounts of Vit.A, C, B1 and B12 which are responsible for good health of bones, joints and nervous tissue.

Goghruta (Ghee)

1. *Go Ghruta* is *Madhura Rasatmaka, Madhura Vipaki, Sheeta Veeryatmaka Dravya*.
2. It has the property of *Pitta- Vata Shaman* and *Kapha Vardhana*.
3. It also has the property of *Nava Dhatu Nirmaana, Brumhana, Vardhana* and *Dhatu Poshana*.
4. It also works on *Rakta Dhatu* as *Rakta prasadana*.
5. *Ghruta* has similar consistency of that of *Shleshaka Kapha* which is present between joint spaces and helps for the lubrication of joints. Hence *Ghruta* was used in *Basti*.

Til Taila (Sesame oil)

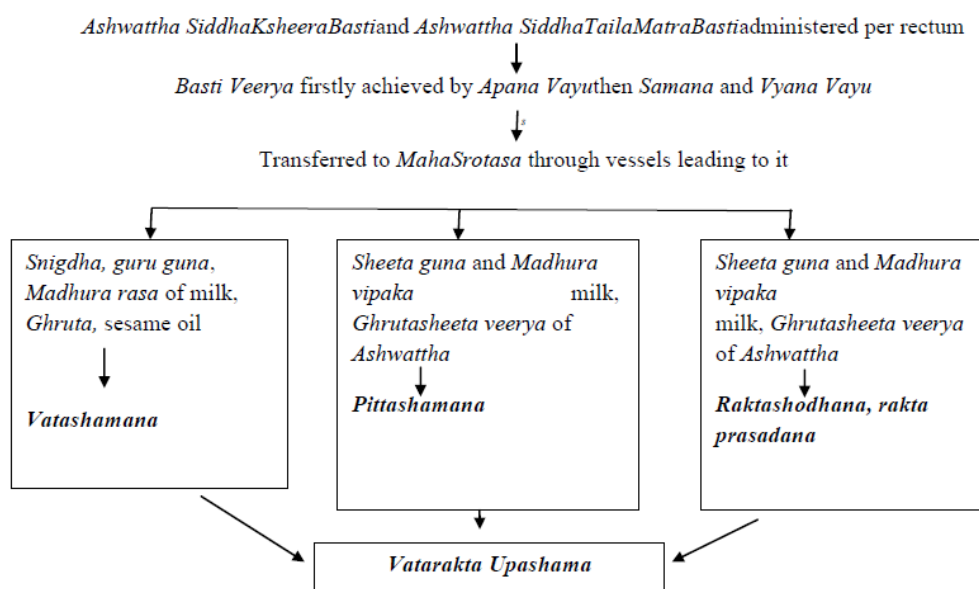
1. It has properties as *Katu, Madhura Rasa, Madhura Vipaka* and *Ushna Veerya*. It is also *Vata Shaman, Pitta Vardhana*.
2. Due to smaller particle size oil can reach in small joint spaces and also due to lipid solubility it can penetrate the mucosal membrane easily and can show desired effect of pain relief easily.

Criteria	Raw milk	<i>Ashwattha Siddha ksheera Basti</i>
pH	6.5-6.7	5.21
Acid value	0.93	1.29
Calcium	0.021%	0.026%

- From the present analysis of *Ashwattha Siddha Ksheera Basti* and raw milk, it can be seen that pH of *Ashwattha Siddha Ksheera Basti* becomes acidic and the acid value also increases, indicating its acidic nature. According to *Ayurveda*, this property is helpful in *Rakta Dhatwagni Vardhana* and *Rakta Dhatu Nirmana*. This phenomenon is useful in *Vatarakta Vyadhi Upashamana*.
- The analysis shows increase in Calcium levels, indicating it is helpful in *Asthi Dhatu Poshana* and this property is useful in *Vyadhis* related *Asthivaha srotasa*. As *Vata Dosha* is seated in *Asthi Dhatu*, this property of *Basti* will help in *Asthi Dhatu Vardhana* and *Vata Shaman*.

Mechanism of Basti

- Mode of action of *Ashwattha Siddha Ksheera Basti* and *Ashwattha Siddha Taila Matra Basti*-
- *Basti* is internal cleansing therapy mentioned in *Ayurveda*.
- Rectal route is mentioned for administration of drugs according to *Ayurveda*, and is considered as half treatment by *Charakacharya*.
- According to *Charakacharya*, *Basti* is beneficial for *Vatarakta* as it is the best treatment for *Vata Dosha*.
- In present study, *Ashwattha Siddha Ksheera Basti* in combination with *Ashwattha Siddha Taila Matra Basti* was used, as *Ashwattha Siddha Ksheera* is indicated in *Vatarakta Vyadhi* by *Charakacharya*.



CONCLUSION

- *Ashwattha Siddha Ksheera Basti And Ashwattha Siddha Taila Matra Bastiin Kala Basti* format is effective as *Shothahara, Shoolahara* and *Raktaprasadana* in *Vatarakta*.
- *Ashwattha Siddha Ksheera Basti And Ashwattha Siddha Taila Matra Bastiin Kala Basti* format is effective in reducing Uric acid levels in *Vatarakta*.