



## A COMPARATIVE STUDY OF VIRATARVADI GANA AND TILANALA KSHARA IN THE MANAGEMENT OF ASHMARI W.S.R. UROLITHIASIS

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### ABSTRACT

**Background:** *Ashmari* is one of the most common disorders of the *Mutravaha srotas*. Besides this, it is included in *Ashtaumahaagada* due to its fatal nature. The word *Ashmari* means stone and *ari* means enemy. The formation of stone which causes great pain and suffering to the body like an enemy is called *Ashmari*. It is one such dreadful disease similar to *Anthaka* which needs surgical intervention at times it crosses the limit. In contemporary science, it is correlated with urolithiasis. Urolithiasis is a condition describing the existence of calculi within the urinary system. It is estimated to afflict 2 % of the total world population but is particularly common in some geographic locations such as in parts of the United States, South Africa, India, and Southeast Asia. Therefore, the disease is world widespread as it is ancient, predominantly in countries with dry, hot climates. The prevalence of calculi varies as per geographic distribution, sex, and age group. The repetition rate is 50 to 80%. Males are more frequently affected than females and their ratio is 3:1 incidence is still higher in the age group between 30-45 years and incidence declines after the age of 50. **Objective:** This research work is planned to see the Comparative efficacy of *Virtarvadigana Kashaya* and *Tilanala Kshara* as a drug of choice for *Ashmari*. **Material and Methods:** 30 patients were selected based on inclusion criteria and divided into 2 groups with 15 patients in each group by chit method. Group A was treated with *Virtarvadigana Kashaya* orally and Group B was treated with *Tilana-*

*lakshara*. **Results:** The data of the present study reveals that regarding symptoms of *Ashmari*, out of 15 patients in group A (*Virtarvadigana Kashaya*), 03 patients (20.00%) were cured, 12 patients (80.00%) were got markedly cured improvement whereas no patient was observed improved and unchanged was seen in patients. Out of 15 patients in group B (*Tilanala Kshara*), 08 patients (53.33%) were markedly cured, and 07 patients (46.665%) were improved in chief complaints.

Regarding the size of the stone and No. of stones in patients Group A (*Virtarvadigana Kashaya*)-12 patients (80%) were cured, and 03 patients (20%) were markedly cured in the reference Size of Stone. 04 patients 33.33 was cured, 04 patients (26.66%) were markedly cured 5 patients (33.33%) were improved and 01 patient (07.14%) was unchanged in reference to No. of Stone. Group B (*Tilanala kshara*)-05 patients (33.33%) were cured, and 10 patients (66.66%) were markedly cured in the reference Size of Stone. 04 patients (42.84%) were cured, 01 patient (1%) was markedly cured, 8 patients (53.33%) were improved, and 02 patients (13.33%) were unchanged in reference to No. of Stone. **Conclusion:** *Virtarvadigana kashaya* has a Very significant effect on the clinical symptom. *Virtarvadigana Kashaya* showed better results in cured rate, markedly cured, improvement rate, and no improvement rate whereas *Tilanala Kshara* showed better results in markedly cured and improvement rate It suggests better effectiveness of *Virtarvadigana Kashaya* over *Tilanala Kshara* in the overall effect of therapy.

**Keywords:** Please add Keywords

## INTRODUCTION

*Ayurveda* is a system that enables fitness in a person via using inherent ideas of nature to bring the character into equilibrium with their real self. Earliest Surgical science -*Shalya Tantra* holds all procedures aiming at the elimination of factors responsible for producing aches or distress to the body or mind. *Acharya Sushruta* took surgery in medieval India to admirable heights and that period was later regarded as 'The Golden Age of Surgery' in historic India.

*Ashmari* or urinary stone is the most painful & common disease of the urinary system. It is the third most common affliction of the urinary tract, exceeded only by UTI and BPH<sup>1</sup>. The prevalence and incidence of urolithiasis still are major urinary problems faced by society across the world. The epidemiology of urolithiasis differs according to the geographical distribution of the population in relation to prevalence, incidence, age, sex distribution, stone composition, stone location, etc. Race, diet, and climatic factors also affect the occurrence of this disease. In developing countries like India prevalence of urolithiasis is increasing day by day. *Ashmari* is one of the most common disorders of the *Mutravaha srotas* besides this it is included in *Ashtaumahaagada* due to its fatal nature<sup>2</sup>. The word *ashmari* means stone and *ari*

means enemy. The formation of stone which causes great pain and suffering to the body like an enemy is called *Ashmari*. It is one such dreadful disease similar to *Anthaka* which needs surgical intervention at times it crosses the limit. Description of *Ashmari* is found in virtually all *Samhitas* of *Ayurveda* as well as in, either as a type of *Mutraaghaata* (as per *Charaka*)<sup>3</sup> or as a separate disease (as per *Sushruta*)<sup>3</sup>. *Acharya Sushruta* explained a detailed description of *Ashmari* including its etiopathogenesis, classification, clinical features, prognosis, and treatment by means of so many surgical interventions. He explained *Ashmari* and its site as a *Basti* which may include calculus present in the kidney, ureter, or else the urethra.

*Sushruta* described various medicines as well as surgical interventions for *Ashmari*. Medicinal treatment is advised to be undertaken in the early stages of the disease. Indication of surgical management had been recommended along with a note of caution considering its complications. Surgical treatment must be undertaken only on failure of conservative treatment (medicinal treatment has its own limit on *Ashmari* nature, chronicity, and composition) and when death becomes inevitable as per the *Sushruta*. Medicinal treatment includes various uses of *Ghruta*, *Kwatha*,

*Churna, Kshara Dravyas, etc.*

In contemporary science, it is correlated with urolithiasis. Urolithiasis is a condition describing the existence of calculi within the urinary system. It is estimated to afflict 2 % of the total world population. Therefore, the disease is world wide as it is ancient, predominantly in countries with dry, hot climates. The prevalence of calculi varies as per geographic distribution, sex, and age group. The repetition rate is 50 to 80%. Males are more frequently affected than females and their ratio is 3:1 incidence is still higher in the age group between 30-45 years and the incidence declines after the age of 50<sup>4</sup>.

The cause of the formation of stone is not yet fully understood but in the majority of cases, multiple factors are involved. Urolithiasis causes pain, harming working time, medical costs, and requirements for hospitalization as well as it is an infrequent cause of renal failure and death.

An alarming rise in the occurrence of urolithiasis and the motivation started by WHO to explore the possibility of discovering a cure through a traditional system has formed momentum for further research in bright Ayurvedic resources.

*Acharya Sushruta* had described various medicines as well as surgery in *Ashmari*. Medicinal treatment has been advised to be undertaken in the early stage of the disease. Surgical management has stated along with a note of carefulness concerning its complication and doubt for success<sup>5</sup>. *Acharya Sushruta* has directed that surgery be accepted only on failure of traditional treatment and when death becomes expected if not treated surgically.

In modern medicine, the therapies available in unique structures of drugs aren't capable of preventing its pathogenesis, even the surgical techniques available for the management of calculi like extracorporeal shock wave lithotripsy, cystolithotomy, etc. also fail to avoid the recurrences and have even provided many side effects such as strictures, sepsis, renal hematoma, splenic rupture, hydrothorax, etc. So, the relapses even after the removal of the calculi are becoming an outstanding problematic and efforts are being made.

## AIMS & OBJECTIVES –

- To compare the effect of *Virtarvadi gana* *Kashaya* and *Tilanalakshara* in the management of *Ashmari*.
- To assess the efficacy of trial drugs *Virtarvadi gana* *Kashaya* and *Tilanalakshara* in the management of *Ashmari*.

## MATERIAL -

•**Patients:** - Patients having signs and symptoms of *Ashmari* (Urolithiasis) were selected irrespective of sex, religion, occupation from OPD, and IPD of Shalya Tantra, Uni. College of Ayu. and special camps are organized from time to time.

## **Drugs**

1. *Virtarvadi gana* *Kashaya*
2. *Tilanalakshara*

## METHODS:

1. Informed written consent will be obtained from all patients.

## Criteria for selection of patients-

**Inclusion criteria:** 1. Pain in the renal angle and loin region, radiating towards the groin. 2. Burning micturition. 3. Haematuria. 4. First time stone former 5. Age-18 to 70 yr.6. Stone size up to 5 -15 mm.7. Radiographic / USG evidence of the urinary stone.

**Exclusion criteria:** 1. Renal failure. 2. Case of immediate surgical intervention. 3. Severe haematuria. 4. Stone size more than 15 mm.5.Gross Hydro-nephrosis6 Retention of urine7.Secondary Stone 8. Patients of carcinoma. 9. Tuberculosis. 10. HIV positive. 11. VDRL positive. 12. Hepatitis-B positive

## **Criteria for diagnosis of *Ashmari*:**

Patients were diagnosed using clinical characteristics, physical examination, findings from the laboratory investigation, and radiological evidence.

## **Laboratory investigation:**

1. Routine haematological investigations like Hb%, CBC, ESR, etc.
2. Biochemical investigation – FBS, Blood Urea, Serum Creatinine, Serum uric acid
3. Urine examination – Routine & Microscopic.
4. Plain X-ray of the abdomen for Kidney, Ureter, and Bladder (KUB) region.
6. USG (abdomen & pelvis)

All the above investigations were accepted before and after treatment. Changes in the values and signs

and symptoms were recorded in the proforma for further assessment.

**Research Design** – Open randomized clinical trial

**GROUPING & POSOLOGY-**

Groups	No. of patients	Formulation	Route	Dose	Time	Duration
Group A	15	Virtarvadigana Kashaya	Orally	20 ml	Twice a day	30 days
Group B	15	Tilanalakshara	Orally	250mg	Twice a day	30 days

A dietary regimen with other necessary instructions related to precautionary measures will be adopted in both groups.

**ASSESSMENT CRITERIA:** Assessment was completed on the base of relief in signs, symptoms & other investigation findings of the laboratory as well as radiological based on special-

ly designed research proforma through the scoring pattern.

**Subjective criteria:** Pain, Dysuria, Haematuria  
On the basis of microscopic urine analysis

**Objective criteria:** Pus Cells: Based on microscopic urine analysis. Site of stone, size of the stone, number of stone

Observations	Group A	Group B	Total	Percentage
Age 18-30yr	10	07	17	56.66%
Sex (Male)	12	12	24	80%
Religion (Hindu)	14	14	28	93.33%
Education(literate)	12	11	23	76.67%
Marital status(married)	14	10	24	80%
Economy (Lower-middle class)	12	05	17	56.66%
Occupation(service)	04	07	11	36.66%
Diet(non-veg)	11	07	18	60.00%
Desha (Jaangal)	14	14	28	93.33%
Family history (present)	8	11	19	63.33%
Prakruti (VP)	07	08	14	46.66%
Pain	15	15	30	100%
Dysuria	14	13	27	90%
Haematuria (Present)	04	03	7	23.33%
Pus cell (Present)	07	04	11	36.66%

**Criteria for Total Effect of Therapy:** For the assessment of the total effect of the therapy the following four categories will be taken into consideration.

<b>Cured</b>	76-100%	Relief in signs and symptoms. Changes in any calculus in the urinary tract with radiological evidence.
<b>Markedly cured</b>	51-75%	Relief in subjective signs and symptoms. Changes in any calculus in the urinary tract with radiological evidence
<b>Improved</b>	26-50%	Relief in signs and symptoms changes in the size of the stone confirmed with radiological evidence.
<b>Unchanged</b>	0-25%	Relief in subjective signs and symptoms. Changes in the size of the stone were confirmed with radiological evidence.

**Follow-up:** After completion of treatment (1 month) all the patients were instructed to have regular follow up for 1 month (30 days). During this follow-up period patients were examined for the relapse of either signs or symptoms of stones.

**Statistical Assessment:** The information gathered on the basis of various parameters was subjected to statistical analysis in terms of mean,

standard deviation, and standard error. Paired t-test was carried out within the group. An unpaired t-test was carried out for inter- group comparison. The percentage of relief was measured to know the efficacy of the trial drug and the result was drawn after sufficient statistical analysis was applied. Statistical analysis by **graphpadinsta3** software.

## OBSERVATIONS AND RESULTS

### RESULTS

The overall result after treatment

**Table No 2.- COMPARATIVE RESULT IN BOTH GROUP:**

CHIEF COMPLAINTS	GROUP-A		%RELIEF	GROUP-B		%RELIEF
	BT MEAN	AT MEAN		BT MEAN	AT MEAN	
1.PAIN	6.46	1.800	72.13%	7.26	2.93	59%
2.DYSURIA	0.933	0.400	57%	0.86	0.46	46%
3.HAEMATURIA	0.266	0.066	74.90%	0.20	0.06	66.50%

After the completion of the therapy of *Virtarvadi-gana Kashaya* and *Tilanalakshara* for 30 days, its effect on chief complaints was observed as presented in the table. In group, A 72.13% relief in pain whereas in group B 59 % relief was observed in pain. In

dysuria, 57% relief was found in group A whereas 46% relief was found in group B. In haematuria, 74.9% of relief was found in group A patients, whereas 66.5% of relief was found in group B.

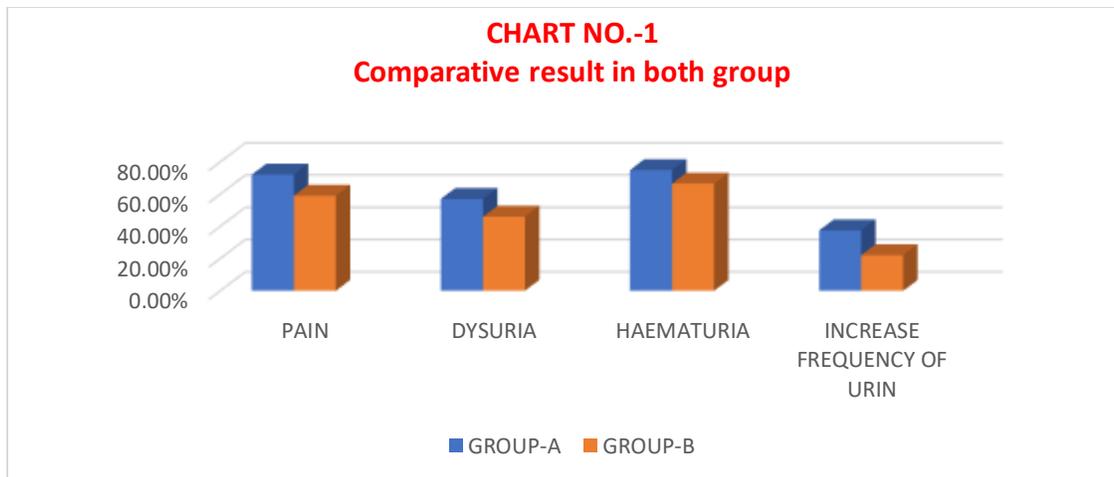
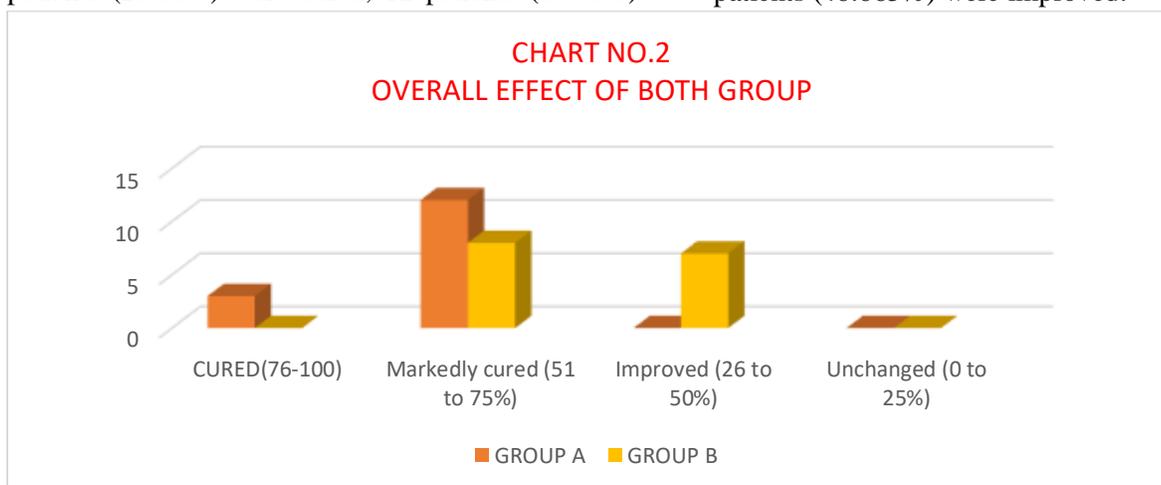


Table No.3: Showing the overall effect of Group-A and Group-B on clinical symptoms.

Therapy effect	GROUP-A Group A		GROUP-B	
	NO. OF PT.	% RELIEF	NO. OF PT.	% RELIEF
Cured (76 to 100%)	03	20%	00	00%
Markedly cured (51 to 75%)	12	80%	08	53.33%
Improved (26 to 50%)	00	00	07	46.66%
Unchanged (0 to 25%)	00	00	00	00%

The data of the present study shown in the table no.3 reveals that regarding symptoms of Ashmari, out of 15 patients in group A (Viratarvadigana Kashaya), 03 patients (20.00%) were cured, 12 patients (80.00%)

were got markedly cured improvement whereas no patient was observed improved and unchanged was seen in patients. Out of 15 patients in group B (Tilanalakshara), 08 patients (53.33%) were cured, and 07 patients (46.665%) were improved.



In this present study out of 15 patients' the total effect of therapy on the reference Size of the stone (Group A)

**Table No.4: Comparative total effect of *Virtarvadi gana* and *Tilanala kshara* in Size of stone**

Total effect	In %	Group A	Group B
Cured	76-100%	12	5
Markedly cured	51-75%	3	10
Improved	26-50%	00	00
Unchanged	0-25%	00	00

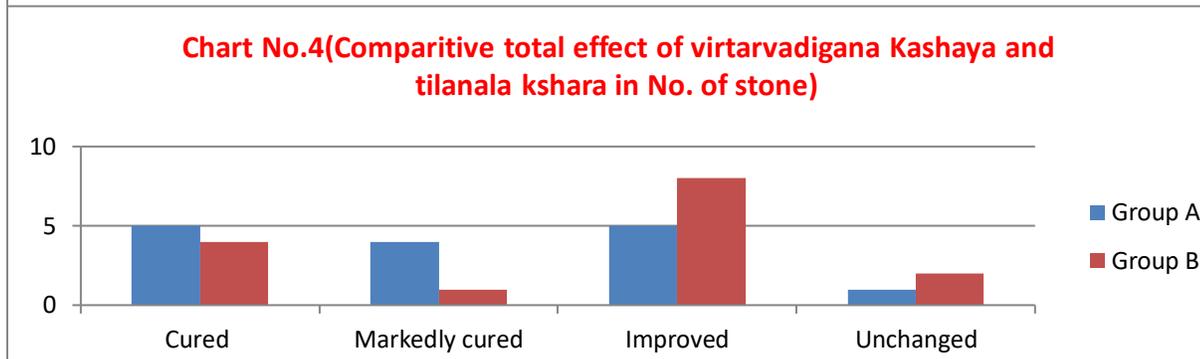
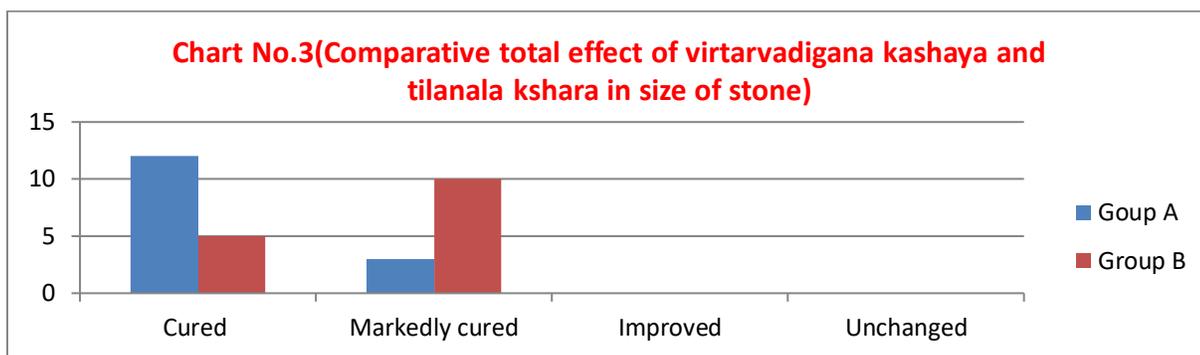
Table no.8 comparison between both groups in reference to the size of the stone. Size reduces between

76-100 % in 05 patients in group A whereas in group B only 12 patients. Whereas 10 pt. size reduced by 51-75% in Group A and 03 patients in Group B

**Table No.5: Comparative total effect of *Virtarvadi gana* and *Tilanalakshara* in No. of stone**

Total effect	In %	Group A	Group B
Cured	76-100%	05	4
Markedly cured	51-75%	04	1
Improved	26-50%	05	8
Unchanged	0-25%	01	2

In the above Table comparison between both groups in the reference to No. reduction of stones showing 76-100% is 05 patients from group A and 04 from group B. whereas 51-75% consist of 4 patients from group A and 01 from Group B. improved Row 26-50% showing 05 patients from group A and 08 from group B.



## DISCUSSION

### Effect of *Virtarvadi gana* on chief complaints (After treatment):

After completion of the treatment, statistically highly

significant results were observed in pain (72%) and dysuria (57%). Statistically significant results were observed in haematuria (74%). The frequency of micturition was increased significantly before and after treatment, because of the *Mutrala* effect of *Vir-*

*virtarvadigana kashaya* which was augmented by increased water intake advised to the patients. In this research, *Virtarvadigana Kashaya* was used with properties of *Tikta – Kashaaya Rasa, Katu Vipaaka, Kapha Vata Shaamaka, and Mutrala*, and due to these properties, it could have increased the flow of urine, healing wounds produced by stone rubbing in *Mutravaha Srotasa*. As a result, *Virtarvadigana Kashaya* relieved symptoms such as pain, haematuria, and dysuria by virtue of its properties after the treatment.

#### **Effect of *Tilanalakshara* on chief complains (After treatment):**

After the treatment (in group B), statistically highly significant results were detected in pain (57%) and dysuria (46%) statistically significant result was found in haematuria (66%)

#### **Comparative effect of therapy in both groups on chief complains:**

On comparison between the results of both groups by applying an unpaired t-test insignificant difference was found in pain, and haematuria dysuria (Table no 3). It indicated that both drugs were equally effective on chief complains.

**Comparative effect of *Virtarvadigana Kashaya* and *tilanalakshara* on no. and size of stone-** Ejection rate of stones and decrease in size of stones was well in *Virtarvadigana kashaya* group demonstrating the *Lekhana, anuloman, saaraka, and Bhedana* property of the compound. The upsurge in the size of stones and no change in stones was a smaller amount in both groups, this also may be attributed to the *Lekhana* and *Bhedana* properties of both compounds.

## **CONCLUSION**

1. In group A highly statistically, significant results were observed in pain (*Vedanaa*) and dysuria. Significant results were found in haematuria.
2. In group B statistically highly, significant results were observed in pain (*Vedanaa*), and dysuria. Insignificant results were found in haematuria.
3. On comparison of results of both groups after treatment insignificant difference was found in all symptoms; however, percentage improvement is

better in the *Virtarvadigana kashaya* group, showing *Virtarvadigana kashaya* is better than *Tilanalakshara* in curing symptoms of *Ashmari*.

4. Regarding the size of stones, in the *Virtarvadigana Kashaya* group expulsion rate is better in small-sized stones and the decrease in size is better in bigger-sized stones, indicating in *Virtarvadigana Kashaya* helps in the expulsion of stones by *Mootrala* and *Bastishodhana Karma* and also breaks stones by *Bhedana. Saaraka, sathilyakaran, lekhan karma* and then causes expulsion of small stones by *Mootrala* effect.
5. In the *Tilanalakshara* group, the expulsion rate is better in stones of small size and the disintegration rate is better in all sizes of stones. It indicates that *Tilanalakshara* acts mainly by its *Ashmari bhedan prabhav* and *Lekhana, Chhedana, and Bhedana Karma* and reduces the size of stone to a level on which they can easily pass out with the flow of urine.
6. Comparing the two groups it is found that the rate of expulsion of all stones and reduction in the size of stones is better in the A group due to property of *Lekhana, anuloman, saithilyakarna, and Chhedana*.
7. Assessment of therapy shows that *Virtarvadigana kashaya* is showing better results in combating symptoms of *Ashmari* and better results in reducing the average size and no. of stones.
8. Overall assessment of results shows that there is a significant difference observed in the effects of both groups. where Group A showed a better improvement rate, due to the improvement of the physiology of *Mutravaha Srotasa* by correction of *Agni, Aama Paachana, and Anulomana*, as well as due to a reduction in the size of the stone.

Comparative analysis of these results with the help of an un-paired t-test confirms that in group A the effect of therapy showed better results on almost all clinical features of stone in comparison to group B. It is found that *Virtarvadigana kashaya* has better results compared to *Tilanalakshara* at the end of treatment and during the follow-up analysis.

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