

## Efficacy of *Majoon Aqrab* and *Sharbat - E – Aalu Balu* in ureterolithiasis (Hasat-e-Halib) : A “ Pilot Study”

AUTHOR

Dr Rahida Hilal, Dr Iram Naseer, Prof Tafseer Ali  
Department of Jarahat (Surgery), Faculty of Unani Medicine,  
A. K. Tibbiya College, AMU, Aligarh

Corresponding author- Dr Rahida Hilal, Assistant Professor  
Department of Jarahat (Surgery),  
Faculty of Unani Medicine, A. K. Tibbiya college, AMU, Aligarh  
Email id - rahidahilal@gmail.com

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### Abstract

**Aim:-** The study was carried out to assess the safety and efficacy of *Majoon Aqrab* and *Sharbat-e-Aalu Balu* in patients with ureteric stones.

**Material & Methods:-** Study was conducted on 10 Patients having ureteric calculi less than 10 mm in size confirmed by symptomatology of the patients, Urine (R & M), ultrasound (whole abdomen), and X-ray KUB. Patients were given *Majoon Aqrab* and *Sharbat-e-Aalu Balu* for 3 months and after completion of treatment, investigations were repeated to evaluate the site, size and expulsion of stones.

**Results:-** We found that more than 8 mm stones were expelled out completely after treatment but stone of more than 8 mm are very difficult to expelled out.

**Conclusion:-** It was concluded that *Majoon Aqrab* and *Sharbat-e-Aalu Balu* are effective in the expulsion of small ureteric stones (less than 8 mm in size)

**Keywords:-** Ureteric Stone, *Majoon Aqrab*, KUB, *Sharbat-e-Aalu Balu*

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### I. Introduction

Famous Lithotomist of Middle Ages, “Frere Jacques” used to say, “I have removed the stone, but God will cure the patient”<sup>[1]</sup>

Urolithiasis is one of the most common health problems worldwide with a prevalence of about 15% and about 2.3% population of India are the sufferers.<sup>[11]</sup>

Urolithiasis is a Greek word & is a combination of 3 words in which “Ouron” stands for urine; “Oros” for flow and “Lithiasis” for stone. It is referred as the process of formation of stone in urinary system which includes Nephrolithiasis (Hasat-e-kulliyah), Ureterolithiasis (Hasat-e-Halib) and Cystolithiasis (Hasat-e-Masanah).<sup>[2]</sup>

Urolithiasis is a multifactorial problem along with some Genetic Components. Many Hypothesis have been Postulated to explain the causes and development of urinary calculi but none have been able to answer fully the questions concerning stone formation. They are as follows; Intracellular (Interstitial) Theory, Extracellular (Intra-tubular) Theory. Some other theories are also present to explain Urolithiasis. These are Matrix Theory, Inhibitor Theory, Hyper-excretion-Crystallisation Theory, free Particle Theory. The process of stone formation depends on Volume of Urine; Concentrations of minerals like calcium, phosphate, oxalate, sodium, and uric acid ions; urinary pH and concentrations of natural calculi inhibitors (e.g. citrate, magnesium, Tamm-Horsfall mucoproteins, bikunin); The presence of crystals in the urine which act as nidus is also one of the Precipitating factor for stone formation.<sup>[3,4,5,6]</sup>

Based on the composition, Calculi are classified into five categories, viz; calcium oxalate (70%), calcium phosphate (5–10%), uric acid (10%), struvite (15–20%), and cystine (1%).<sup>[7]</sup>

The classical presentation of a patient with ureteric calculi is colicky pain which is usually radiating in nature associated with nausea/ vomiting and/or haematuria (Either Microscopic or Macroscopic) are highly predictive of urinary tract stone disease with a sensitivity of 84% and a specificity of 99%. Calculi smaller than 5mm pass spontaneously with proper hydration for forced diuresis and pain control with Antispasmodics in 90%

(approx.) of patients. The rate of stone passage decreases as the stone size increases; 8- 10mm stone has <10% chance of passing without surgical intervention. [8,9]

WHO experts have defined traditional medicine including Unani system of Medicine as “ The sum total of all the knowledge, used in diagnosis, prevention and elimination of physical, mental or social imbalance and relying exclusively on practical experience and observation handed down from generation to generation. Traditional medicine may also be considered as a solid amalgamation of dynamic medical knowledge and ancestral experience” . [10]

As per Unani concept, the cause of the disease is the presence of abnormal humours and body excretes these humours in the form of viscid fluid which causes the stone formation. Ureteric stones more than 5-6 mm in diameter are difficult to remove spontaneously. Shape of the stones also matters a lot. Cylindrical stones are easily removed by their own but if the shape of the stone is round, oval and/or mulberry are difficult to remove even in case of stones <5mm.

According to Unani system of Medicine, the main cause of stone formation is *Su-e-Mizaj Har*. Ureteric stones may form in kidney & migrate to the ureter or may primarily form in the ureter, by the crystallisation of mineral particles in stagnated urine but still the exact cause of ureteric stone formation is unknown, individuals with family history of nephrolithiasis are at more risk of developing stones.

In Allopathic system of medicine, there is only symptomatic treatment to treat the patient by antispasmodic drug, alkalisers and/or antibiotics as per the need of the patient.

In Unani system, there are mainly three modalities of treatment. These are Dietotherapy, Regimenal therapy and Pharmaco-therapy. According to Unani system of medicine, the stones were formed due to alteration or imbalance in body Humors& due to *Su-e-Mizaj* & also we treat the patient according to the *Mizaj* of the drug and the Patient as well.

In Unani System of Medicine, there are various *Mufrad advia* (Single Drugs) as well as *Murakkab Advia* (Compound Drugs) available for the treatment. Which are as follows:-

**The Mufrad advia (Single Drugs)** are *Aalu Balu* (*Prunus cerasus* Linn.), *Beekh-e-Neil* (*Ipomoea nil* Linn.), *Beekh-e-Halyoon* (*Asparagus officinalis* Linn.), *Beekh-e-Gh"ar* (*Prunus laurocerasus* Linn.), *Habb-ul-Qilt* (*Dolichos biflorus* Linn.), *Habb-e-Kaknaj* (*Physalis alkekengi* Linn.), *Habb-e-Balsan* (*Commiphora opobalsamum* Linn.), *Khar-e-khasak* (*Tribulus terrestris* Linn.), *Kukraundah* (*Blumea abalsamifera* Linn. Dc.), *Persiyawa Shan* (*Adiantum capillus-veneris* Linn), *Qurtum* (*Carthamus tinctorius* Linn.), *Sa"ad Kofi* (*Cyperus longus* Linn.), *Tukhm-e-Khurfah* (*Portulaca oleracea* Linn.), *Tukhm-e-Kasni* (*Cichorium intybus* Linn.), *Tukhm-e-Turab* (*Raphanus sativus* Linn), *Tukhm-e-Karafs* (*Apium graveolens* Linn.), *Tukhm-e-Khayar* (*Cucumis sativus* Linn), *Tukhm-e-Gazar* (*Daucu scarota* Linn.), *Tukhm-e-Kharpazah* (*Cucumis melo* Linn.), *Hajr-ul-Yahood* (*Lapis judaicus*), *Jawakhar* (*Potassium carbonate*), *Sang-e-Sarmahi* (*Fish stones*), *Shorah Qalmi* (*Potassium nitrate*), *Aqrab Sokhtah* (*Burnt Scorpion*), *Asaafeer* (*Sparrow*), *Kharateen-e-Mas"hoog* (*Earth worm*), *Khakistar-e-Khargosh*, (*Burnt Rabbit*).

**The Murakkab Advia (Compound Drugs)** used in the form of tablets, Powder, Paste and Syrup are used as therapeutic agent. [42] Examples are as follows:-

In the form of Tablet:- *Qurs Kaknaj*, *Qurs Kushtah Hajr-ul-Yahood*, *Iksir-e-Gurda* etc.

In the form of Powder:- *Kushtah Hajr-ul-Yahood* etc.

In Paste form:- *Majun Hajr-ul-Yahood*, *Majun Aqrab*, *Majun Sang-e-Sarmahi*, *Jawarish Zaruooni Sada*, *Jawarish Zaruooni Ambari*, *Jawarish Jaleenoos* etc.

In Syrup form:- *Sharbat Alu Balu*, *Sharbat Buzoori Motadil* etc.

Present study was conducted in the Department of Jarahat (Surgery), Ajmal Khan Tibbiya College & Hospital, AMU, Aligarh, *Majoon Aqrab* and *Sharbat-e- Aalu Balu* were used to treat the patients of Ureteric calculi less than 10 mm and to prove its Safety and Efficacy. The composition of *Majoon Aqrab* and *Sharbat-e- Aalu Balu* tabulated below:-

**Table-1:** Constituent of *Majoon Aqrab* and *Sharbat-e- Aalu Balu*

S. No	Constituents of <i>Majoon Aqrab</i>	
	Ingredients	Botanical Names
1.	Zanjibil	<i>Zingiber officinale</i>
2.	<i>Aqrab Mohraq</i>	<i>Scorpion</i>
3.	<i>Filfil Safed</i>	<i>Piper nigrum</i>
4.	<i>Filfil Siah</i>	<i>Piper nigrum</i>
5.	<i>Jund Bedastar</i>	<i>Castoreum</i>
6.	<i>Juntiyana</i>	<i>Gentiana lutea</i>
7.	<i>Kaknaj</i>	<i>Physalis alkekengi</i>
8.	<i>Qand Safed</i>	Sugar
Constituents of <i>Sharbat-e- Aalu Balu</i>		
1.	<i>Alu Balu</i>	<i>Prunus cerasus</i>
2.	<i>Qand Safed</i>	Sugar

## II. Material and Method

The study entitled “ Efficacy of *Majoon Aqrab* and *Sharbat - e – Aalu Balu* in ureterolithiasis (*Hasat-e-Halib*) : A Pilot Study” was conducted in the Department of Jarahat (Surgery), Ajmal Khan Tibbiya College, Aligarh Muslim University, Aligarh on 10 patients.

The Patients having symptoms related to ureteric calculi like pain in lumbar region (Right or Left), burning micturition, frequency of micturition, nausea/vomiting and/or haematuria were screened and evaluated for the study and a well informed written consent was taken by the patient enrolled in the study.

### Inclusion criteria

- ❖ Pain in the lumbar region or ureteric colic
- ❖ Burning micturition
- ❖ Difficulty in urination
- ❖ Frequency of micturition
- ❖ Patient of either sex with >15yrs of age
- ❖ Ultrasonological evidence of ureteric calculi
- ❖ Patient who follows the protocol

### Exclusion criteria

- ❖ Ureteric calculi of size more than 10mm in size
- ❖ Patient with calculi other than ureter
- ❖ Ureteric calculi associated with other anomalies like horse shoe kidney, neurogenic bladder
- ❖ Patients having hydronephrosis
- ❖ Non-co-operative and non-willingness for follow ups.
- ❖ Deranged renal functions
- ❖ Anxious patient
- ❖ Patients having systemic disease like Hypertension, Diabetes, CRF etc.

All investigations including haematological, biochemical and radiological were carried out before the treatment, at 3 month of treatment, and after completion of treatment. The follow up was done fortnightly.

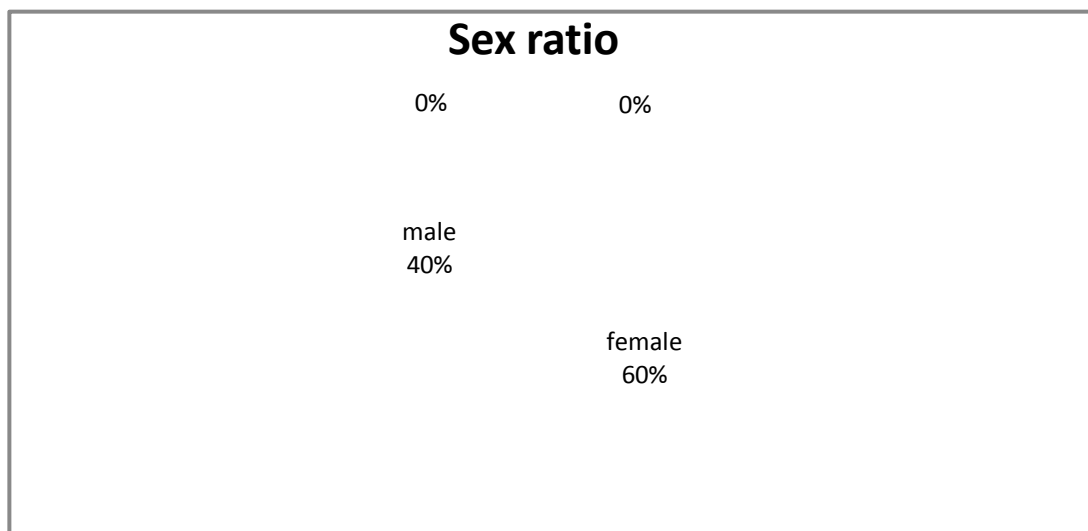
Patients were advised to take 2-TSF *Majoon Aqrab* and 3-TSF *Sharbat-e-Aalu Balu* for 6 months twice daily. Clinical improvement was assessed on the basis of improvement in symptoms and ultrasonological findings.

## III. Result and Observation

The present study was done on 10 patients attending the surgery OPD, AKTCH, AMU, Aligarh. These patients were advised to take *Majoon Aqrab* 2 TSF and *Sharbat-e-Aalu Balu* 3 TSF twice daily for a period of 6 months as per the protocol. Out of 10 patients, 6 patient (60%) were female and 4 (40%) were male. (Table 2)

Table-2: Distribution of patients according to Gender

Gender	Number of Patients	Percentage (%)
Male	04	40
Female	06	60
Total	10	100

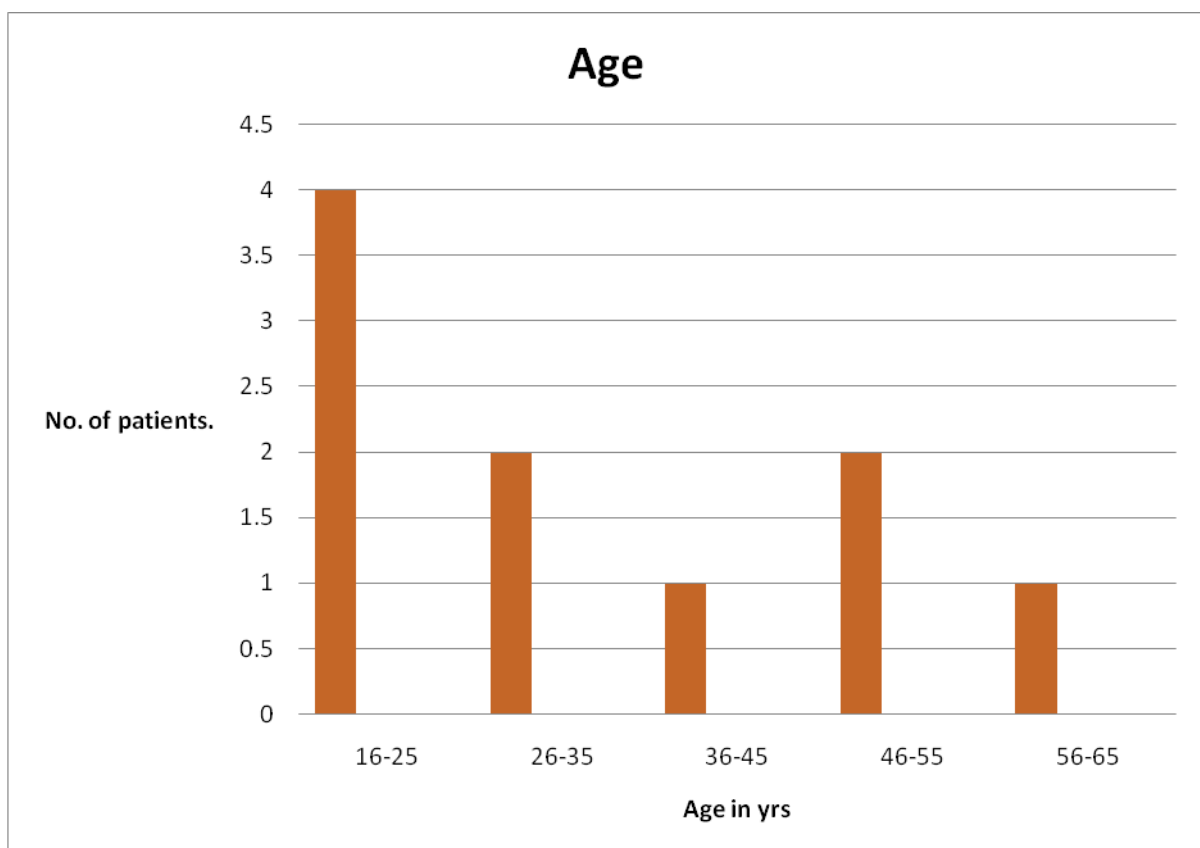


Graph 1 According to gender

In the Present study, maximum no of patients having ureteric calculi were in the younger age group (16-25 yrs of age) and least in the age group of 36-45 yrs of age. (Table 3)

Table-3: Distribution of patients according to age of patients

Age (yrs)	Number of Patients	Percentage (%)
16-25	04	40
26-35	02	20
36-45	01	10
46-55	02	20
56-65	01	20
<b>Total</b>	<b>10</b>	<b>100</b>

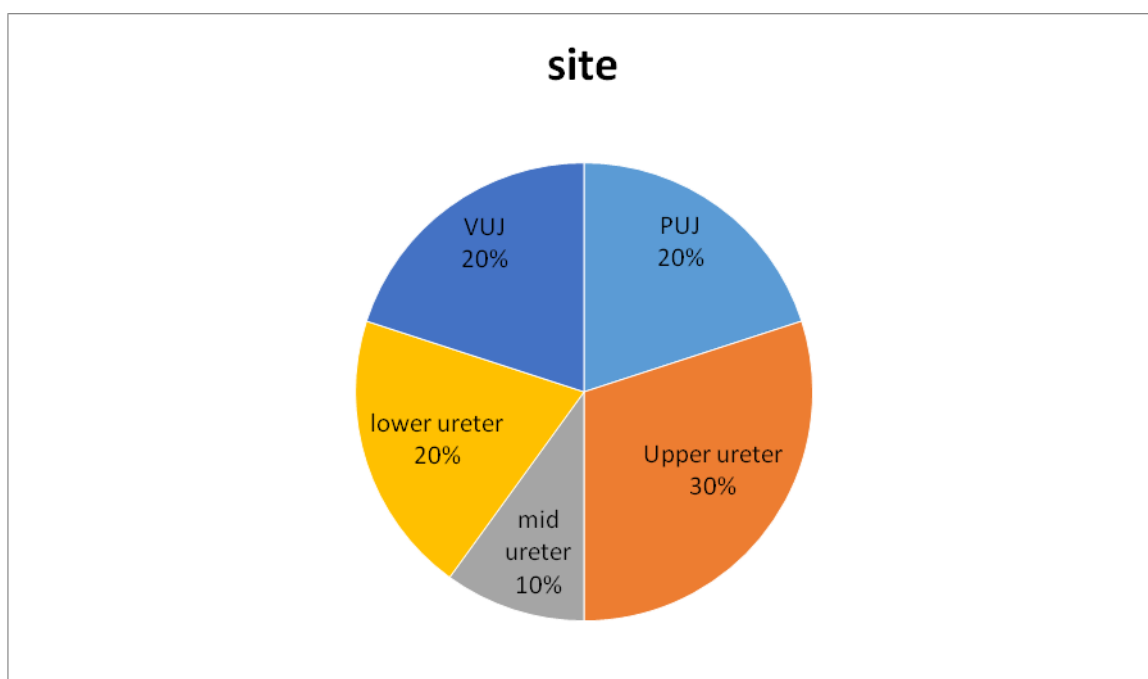


Graph 2 According to age

According to site of stone 2(20%) patient have stone at Pelvi-ureteric Junction (PUJ), 3(30%) at upper ureter and only 1(10%) patient present with mid ureteric stone.2(20%) present with lower ureteric stone and remaining 2(20%) at vesico-ureteric junction (VUJ).(Table 4)

Table-4: Distribution of patients according to site of stone

Site of Stone	Number of Patients	Percentage (%)
PUJ	02	20
Upper Ureter	03	30
Mid Ureter	01	10
Lower Ureter	02	20
VUJ	02	20
<b>Total</b>	<b>10</b>	<b>100</b>

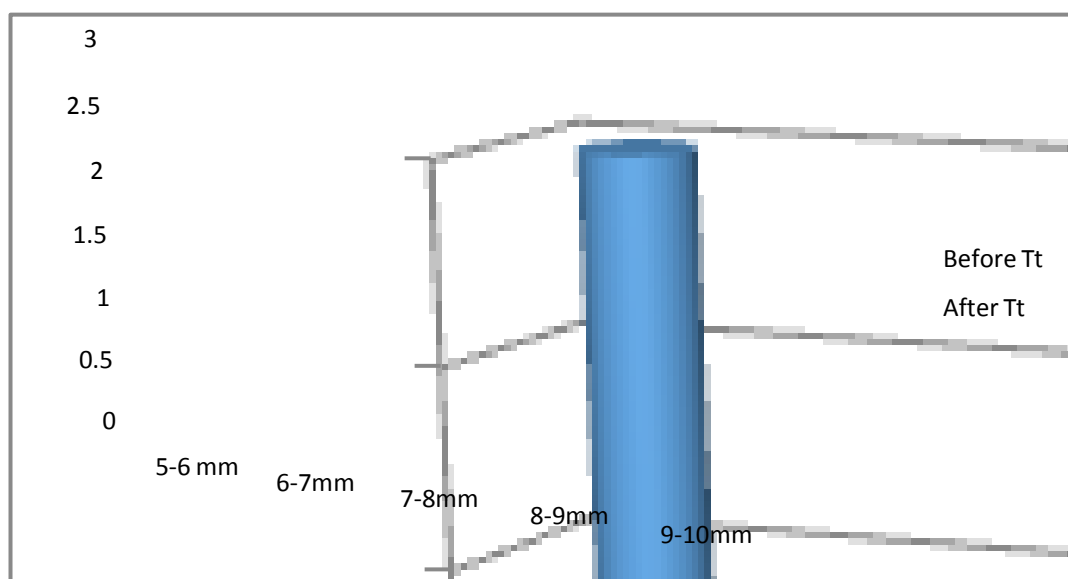


Graph 3 According to site of stone

The size of stone which were included in our study varies from 5-10mm. The incidence of 5-6mm and 9-10mm are same i.e.30%. 6-7mm and 8-9mm size of stones present in 10% patients in each group and 7-8mm stone present in 20% of patients. (Table 5)

Table-5: Distribution of patients according to size of stone:

Size of Stone (in mm)	Number of patient before treatment	%	Number of patient after treatment	%
5-6	3	30	0	0
6-7	1	10	0	0
7-8	2	20	0	0
8-9	1	10	1	10
9-10	3	30	2	20
<b>Total</b>		<b>10</b>		

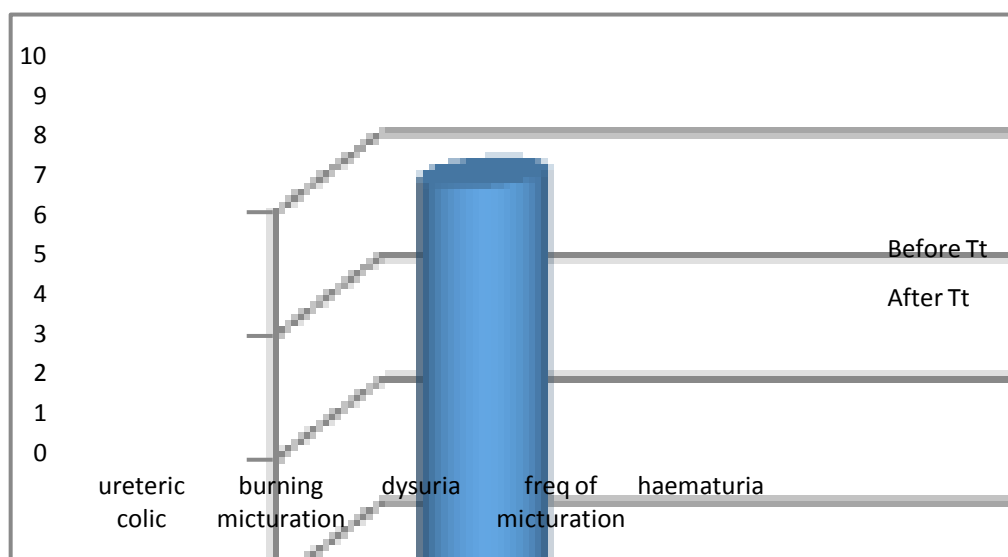


Graph 4 According to size of stones

Pain is the most common and presenting feature of ureteric calculi and this is the complaint which was present in all 10 patients before treatment but after treatment there is 100% relief. The other complaints which were given by patients are dysuria (30%), burning micturition (50%), frequency of micturition (20%) and haematuria (30%). There were marked relief in pain and burning micturition and partial relief in dysuria, frequency and haematuria.(Table 6)

Table-6: Distribution of patients according to clinical features

Clinical features	Before treatment		After treatment	
	Number of patients	%	Number of patients	%
Pain or ureteric colic	10	100	0	0
Burning micturition	5	50	0	0
Dysuria	3	30	1	10
Frequency of micturition	2	20	1	10
Haematuria	3	30	1	10



Graph 5 According to clinical features

#### IV. Discussion:

In our study, 10 patients of both the sex of ureteric calculi were included in the present study, maximum incidence occurred in female (60%) and Irfat Ara *et.al.* also reported that maximum patient were

females (56.6%) which is in concordant with our study while S. Jeevaraman *et.al.* reported only 38% patient were females. [11, 41]

The age group which were most affected in our study is 16-25yrs (40%) while S. Jeevaraman *et.al.* and Irfat Ara *et.al.* reported maximum incidence was found in the group of 21-49 yrs of age (60%) and 31-40yrs of age (50%) respectively. [11, 41]

Pain was present in all patients in our study i.e. 100%, while burning micturition was present in 50%, dysuria in 30%, haematuria in only 30% and frequency of micturition was complained by 20%. S. Jeevaraman *et.al.* and Irfat Ara *et.al.* also reported haematuria in 45%. [11, 41]

30% of ureteric stone were impacted in the proximal third of ureter and same was coated by S. Jeevaraman *et.al.* The stone present at PUJ, lower ureter and UVJ was same i.e. 20% in our study, while different incidence reported in S.Jeevaraman *et.al.* i.e. 7%, 27% and 19% at PUJ, lower ureter and VUJ respectively. Least incidence of stone at mid ureter was found in our study i.e. only 10%, while according to S.Jeevaraman *et.al.*, it was 17%. [41]

In our study, the size of stones which easily passed was less than 5mm. The stone size from 6-8mm varied from 10-20%. It was observed in the study that stone of 5-8 mm in size expelled out completely after treatment completion but stones of >8mm (between 8-10 mm) were very difficult to be expelled and only in 1 patient (out of 4 patients) stones was expelled as quoted by Irfat Ara *et. al.*, that stone of >0.5 mm are difficult to expel and in her study, only 50% stones were expelled out after treatment completion. [11]

In Unani system of medicine, the aim of management is to excrete the morbid matter which aggravates the stone formation. The diet of patient includes plenty of oral fluids and easily digestible diet (~~Ghiza-raddiul qemoos~~ Zood hazm ghiza) such as Aab-e-naryal (coconut water) and the diet, such as meat, that produces more morbid matters should be avoided. Substances rich in calcium are also avoided. Taqleel ghiza (decreased diet) is advised. The Unani management is cost effective and there is less harmful effect in long term use. In our study, we used Majoon Aqrab and Sharbat-e-Aalu Balu to treat the patients of ureteric calculi/ ureterolithiasis. Majoon Aqrab and Sharbat-e-Aalu Balu are diuretic and having litholytic and lithotriptic activities and also regulate urine output. In addition to these activities, it also possesses antioxidant and antispasmodic activity by blocking pain receptors. The constituents present in Majoon Aqrab and Sharbat-e-Aalu Balu are Nephro-protective and having soothing effect. [11]

The constituents present in Majoon Aqrab and Sharbat-e-Aalu Balu shows wide range of pharmacological effect e.g: *Zingiber officinale* has been reported to show antioxidant, antiemetic, anti-inflammatory, anti-arthritic and immune-modulatory effect. Study conducted by Lakshmi and Divyaet.al on Wistar albino rats shows that it dissolves and expels stone very fast. [11,12,13,14,15,16,17,18]

A clinical study by Saha and Verma *et.al.* shows protective role of *Piper nigrum* in sodium oxalate induced oxidative stress in kidneys of rats. The active chemical constituent of *P. nigrum* is piperine which have antibacterial, anticancer, antioxidant, anti-arthritic and immunomodulatory properties. [19,20,21,22,23,24]

Ash of scorpion oust the stone rapidly and also the entire scorpion and its venom is used as traditional medicine in India, China, Africa and Cuba. [25, 26]

Castoreum is the yellowish secretion of the scent gland of Castor Canadensis which is used in different pathological conditions like hysteria, headache, fever and in bronchial asthma. [27,44]

Antioxidant, anti-inflammatory and hepato-protective effects evince by *Gentiana lutea*. [11,28,29,30]

*Physalis alkekengi* shows analgesic, anti-microbial, antioxidant, anti-neoplastic, anti-inflammatory, antispasmodic and anti-fertility effects. [11,31,32,33,34,35,36,37]

Anti-glycation, analgesic, anti-oxidant and anti-inflammatory properties showed by *Prunus cerasus*. [38,39,40,43]

## V. Conclusion:

It is concluded that the Majoon Aqrab and Sharbat-e-Aalu Balu are safe clinically and cost effective in treating the patients of ureteric calculi less than 10 mm in sizes. Moreover, the safety and efficacy of the Majoon Aqrab and Sharbat-e-Aalu Balu should be evaluated by large randomized clinical studies and multi-centric trials.

### Conflict of interest:

There is no conflict of interest.

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