

# Effectiveness of Homoeopathic Mother Tincture Bryophyllum Calycinum (Q) in The Treatment of Urolithiasis Patients

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## ABSTRACT

This review is focused on “Effectiveness of Mother Tincture (Q) Bryophyllum Calycinum in treatment of Urolithiasis Patients”. Bryophyllum Calycinum is an indigenous and exotic plant used widely for treatment of various ailments. Despite advances in modern medicine, the development and growth of calculi continues to be a source of concern for mankind there is no effective treatment for calculi. Keeping in view, the study investigates Antiurolithiatic activity of Bryophyllum Calycinum against urinary calculi.

**KEYWORDS:** Bryophyllum Calycinum, Mother tincture, Urolithiasis, Non-surgical Expulsion, kidney stone(s).

## INTRODUCTION

Urolithiasis is the urinary calculi which are formed in urinary system. These calculi are formed when urine becomes supersaturated with insoluble materials like Calcium Oxalate (major player), Uric acid and Urates etc., which results in deposition and formation of crystal called Urinary Calculi.<sup>1</sup> Urinary Calculi are one of the most commonest problem affecting about 5% of world population and about 12.7% of human population in India.<sup>2</sup> Renal stone can occur at any age; the peak incidence is reported in persons aged 20-49 years. Males are affected more than females. The prevalence of urinary tract stone in the industrialized world ranges from 4-20%.<sup>3,4</sup> On average, 1 in 11 Americans develop kidney stones at least once in their life time.<sup>5</sup> In developing countries, bladder calculi are more common than upper urinary tract calculi; the opposite is true in developing countries. It is estimated that the incidence of renal stone may increase from 40% - 56% by 2050 as a result of the effect of global warming.<sup>5,6</sup>

Renal stones are common in obese and diabetic individuals. The recurrence rate of renal stone is high, with 50% recurring within 5 years of the initial stone event. The factors that determine the accelerating pace of stone formation in recurrent stone former are not well known. Therefore, in a single stone former, one cannot predict which patient will relapse, however, the natural history of stone disease and the high rate of recurrence requires careful diagnostic evaluation and early treatment. The abnormal colour of Urine, blood in urine (Hematuria), fever, nausea and vomiting, severe sharp abdominal pain in flank and back that radiates to lower abdomen and groin with more or less intensity are the symptoms of urolithiasis. The increase water intake, dietary restriction, urinary alkalizing and calcium chelating agents are the

current preventing measure. Nowadays lithotripsy and local calculus disruption methods are widely used to remove calculi, though procedures are expensive and recurrence is quite common.

The overall outcome gives clear cut indication for exploration of new remedy, *Bryophyllum Calycinum* though it was mentioned in Boericke's New Manual of Homoeopathic Materia Medica with Repertory.<sup>7</sup>, as *Bryophyllum Calycinum* is an indigenous and exotic plant native to Madagascar widely used in the treatment of various ailments. It has many pharmacological activities like antimicrobial, antilithogenic, antihypertensive, anticancerous, anti-inflammatory, antidiabetic etc.<sup>8</sup> The presence of saponins and antioxidant phytochemical like flavonoid, glycosides, alkaloids and polyphenols were found in quality in *Bryophyllum Pinnatum* extract, which may have contributed to Antilithiatic activity through stone dissolving and antioxidant reaction. It is good for renal calculi and urinary insufficiency. It helps to improve the urine flow, relieves the painful urination removing calculi and other urinary problems.<sup>9</sup>

But still we have to find out it's more efficacy and so we are focusing on diseases of Nephrology especially Urolithiasis as in today's world due to fast life, stress, unhygienic food with too much salt or sugar, drinking too little water all these factors correlates with increasing risk of developing a kidney stone. Despite advances in modern medicine and technologies, the development and growth of calculi continues to be a source of concern for mankind as there is no effective treatment for calculi and reoccurrence is quite common after surgeries. As experiment on conducted on male Wister rats (*Rattus norvegicus*) it was observed that Hydroalcoholic extract obtained from *Bryophyllum Calycinum* is useful in preventing recurrence of Renal calculi due to its antioxidant nephroprotective properties.

Keeping in view, in this study we are investigate proper, accurate and effective Antiurolithiatic activity of Homoeopathic Mother Tincture *Bryophyllum Calycinum* (Q) in Urolithiasis patients, so that, it will help to the mankind for their suffering and thus help in financial saving from expensive procedures and give new shape, recognition and importance to Homoeopathy.



## MATERIALS AND METHOD

It includes all those necessary things and tools that required in the treatment of urolithiasis by *Bryophyllum*

ssCalycinum (Q). All cases were taken with a specially design case format and complete investigations are recorded.

#### **Materials:**

- 1. Source of Data, Project site:** The study was under taken at Ahmedabad Homoeopathic Medical College attached with Sainath Hospital, Ahmedabad and the cases were included from patients attending at IPD and OPD of Ahmedabad Homoeopathic Medical College attached with Sainath Hospital, Ahmedabad.
- 2. Study type:** Prospective interventional single arm study
- 3. Duration of study:** 6 months.
- 4. Procuring of medicine:** The medicine was procured from GMP certified reputed homoeopathic pharmacy **ADVEN BIOTEC PVT. LTD.** and were provided and dispensed by dispensary of Sainath hospital, attached with Ahmedabad Homoeopathic Medical College, Ahmedabad.
- 5. Case Performa:** A Detail case history will be taken according to the schema of model case format with special emphasis to ascertain the following headings.
  - History of present illness
  - Past history
  - Family history
  - Personal history
  - General physical examination
  - Systemic examination & local examination
  - Investigation
  - Diagnosis

#### **METHODOLOGY:**

- 1. Method:** Single Random Sampling Method
- 2. Case selection:** 30 diagnosed cases of Renal Stone were selected on the basis of Inclusive and Exclusive criteria by Random sampling method.
- 3. Inclusive and Exclusive criteria:**

##### **Inclusive Criteria:**

- Both sexes and all age group above 18 years of age will be considered.
- Diagnosed patient of Urolithiasis by USG abdomen and X-ray.

##### **Exclusive Criteria:**

- Cases with any other severe disorder already diagnosed or diagnosed during screening if clinical features were suggestive of some systemic illness like Diabetes, hyperthyroidism, hypertension.
- Case with radiological Hydronephrosis.(Grade 3 and above)
- Cases with impaired renal function.
- Cases without proper follow-up (at least 3 irregular follow-up).
- Any secondary co-morbidity in urolithiasis patient which may be fatal.
- Those requiring hospital admission and need long term care.
- Pediatric patients.
- Pregnant and lactating females.

- 4. Data Collection:** The data will be collected on the basis of following points:

1. **Clinical diagnosis:** It was done by interrogation of individual case and on the basis of details obtained regarding present complaints, past history, family history, personal history, General physical examination, Systemic examination and Local examination.
2. **Following laboratory and radiological investigations** were done to confirm the diagnosis of renal calculi.  
X-ray KUB ( Kidney, Ureter and Bladder)  
USG Abdomen (pre and post treatment)
3. **Case Taking:** Case taking was done according to guidelines mentioned by Dr. Hahnemann aphorism 83-104 and specially designed format for the study.
4. **Case Record:** All the data will be recorded in standardized case record with the following Steps given below.
  - Case taking
  - Recording and interpretation
  - Analysis of the case
  - Synthesizing the case
  - Erecting totality
5. **Description of the Investigational Product:** Mother tinctures prepared at **ADVEN BIOTEC PVT. LTD.** are the pure medicinal extract of herbal substance procured from natural resources, prepared in best quality medicinal carries for complete and long lasting effectiveness, i.e. demineralized / sterilized water and extra neutral alcohol ( ENA, purest ethyl alcohol) according to the standards described in the pharmacopeia.

The processing includes highest- grade stainless- steel vessels to ensure safety from any kind of contamination and multidisciplinary testing, include physical, chemical and microbiological at all stages to keep the quality and stability ensured.

**BRYOPHYLLUM CALYCINUM** extract or Homoeopathic Mother Tincture, commonly known as Miracle leaf or Pathar chatta native to Madagascar has pharmacological activities like antimicrobial, antihypertensive, antilithogenic, anticancerous, anti-inflammatory, antidiabetic. It is a useful mother tincture for Renal calculi, Skin problems like boils, cuts, wounds, in vaginal disorder, stomach ulcers, eye pain, headache, hypertension, leukemia.

**6. Study design:** Here the main research design would be a cohort study where we would be dispensing Bryophyllum Calycinum Mother Tincture to the patients suffering from Renal Calculi and would be observing the effects of the same on the patients.

**7. Treatment of subject:**

**Dose:** 10 – 10 drops

**Repetition:** Every 15 days.

**Route of Administration:** The medicine was administered through oral route.

**Follow up:** Every 15 days.

**Record:** All the records are maintained as per standard procedure of Institute with confidentiality.

**8. Assessment of Efficacy:** For an effective evaluation and assessment, disease intensity was graded in every patient based on their presentation observed during case taking. After completion of this study, the post treatment disease intensity scores were compared with the pre treatment intensity score and are statistically evaluated.

**9. Criteria for Result:** The cases of Renal Calculi were analyzed for result on the basis of following criteria's.

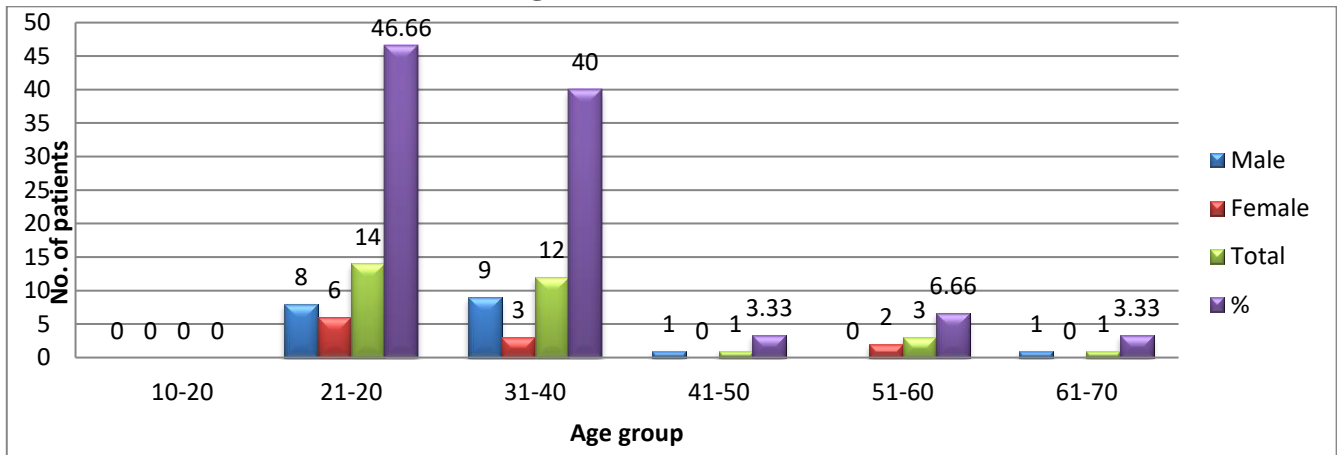
- **Marked improvement:** After prescribed duration of study feeling of mental and physical well- being with disappearance of all sign and symptoms without any relapse and with radiological evidence of no stone.
- **Moderate improvement:** After prescribed duration of study feeling of mental and physical well-being with disappearance of all sign and symptoms with the radiological evidence of reduction in size of stone.
- **Not significant improvement:** After prescribed duration of study no change in any complaints.

**OBSERVATION:**

From the above study of the topic “Effectiveness of Homoeopathic Mother Tincture Bryophyllum Calycinum Q in the Treatment of Urolithiasis Patients”, statistical data can be drawn, which will be used for the final conclusion. Following are different statistical data which reveals the observation and result of this study.

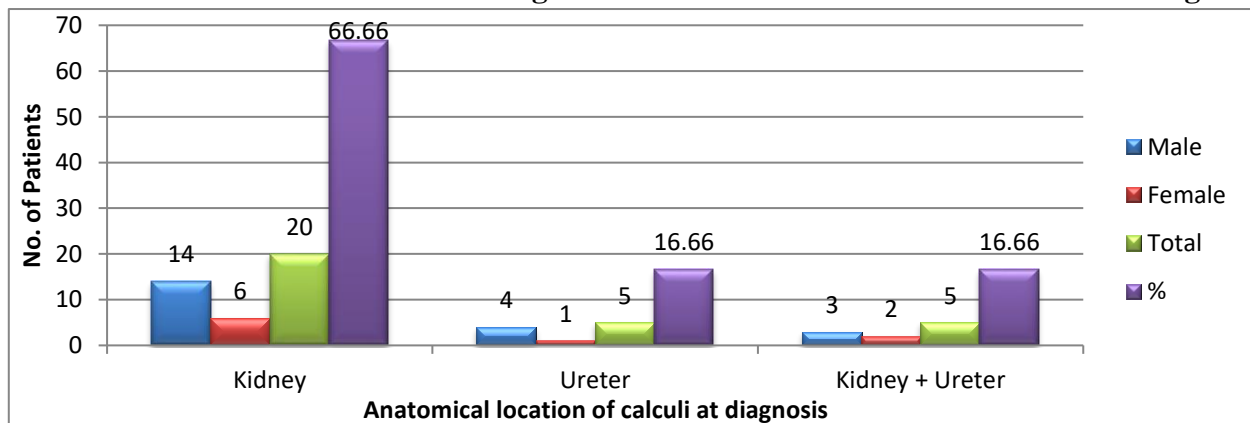
The present study includes 30 patients between the age group of 10-70 years. Number of patients has been divided into subgroups according to the age and sex. The statistical analysis is done based on the obtained from these groups of patients.

**TABLE- 1 Distribution of Age and Sex incidence in 30 cases of Renal Calculi.**



From the above Bar graph one can make a hypothesis that the Renal Calculi is not based on age and sex.

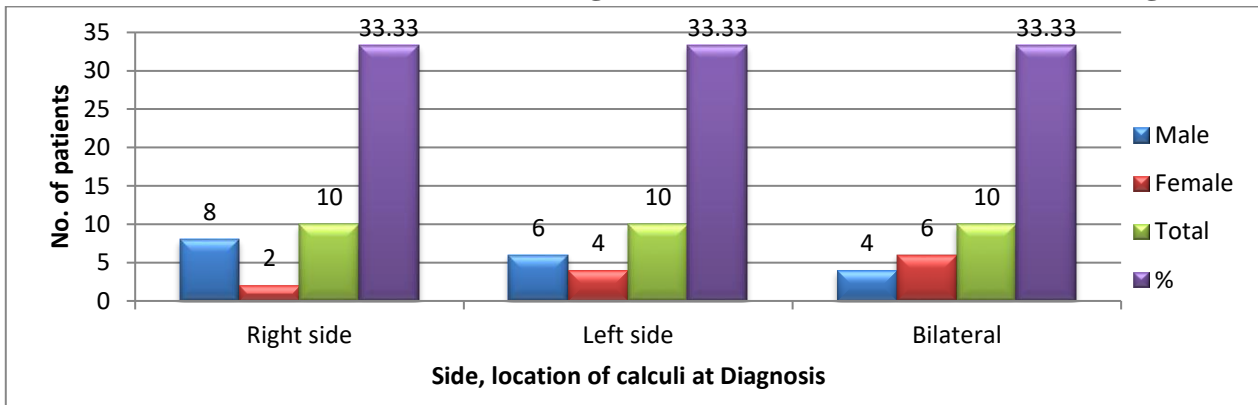
**TABLE 2 Distribution of cases according to Anatomical location of Renal Calculi at Diagnosis.**





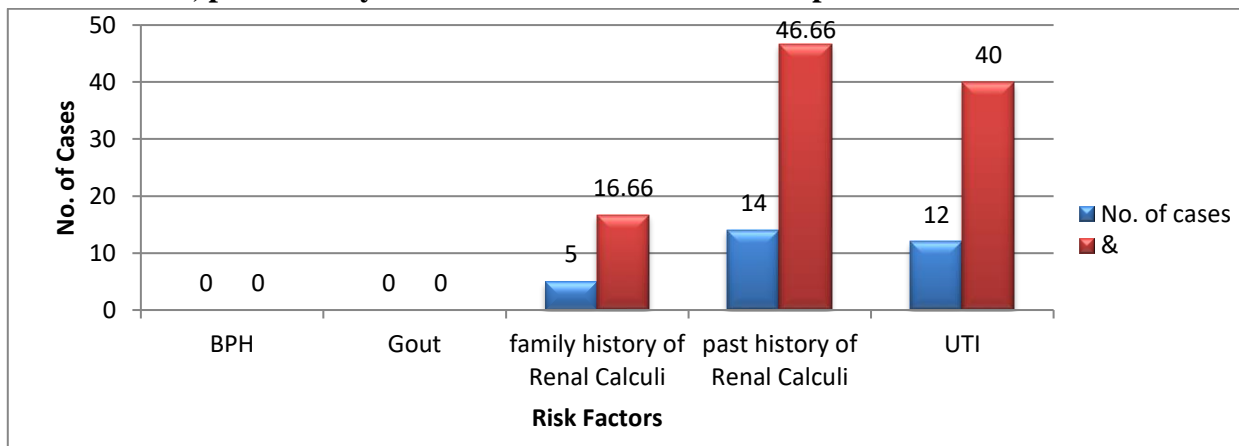
From the above Bar graph one can make a hypothesis that the most common anatomical location of Renal Calculi is Kidney.

**TABLE- 3 Distribution of cases according to side, location of Renal Calculi at Diagnosis.**



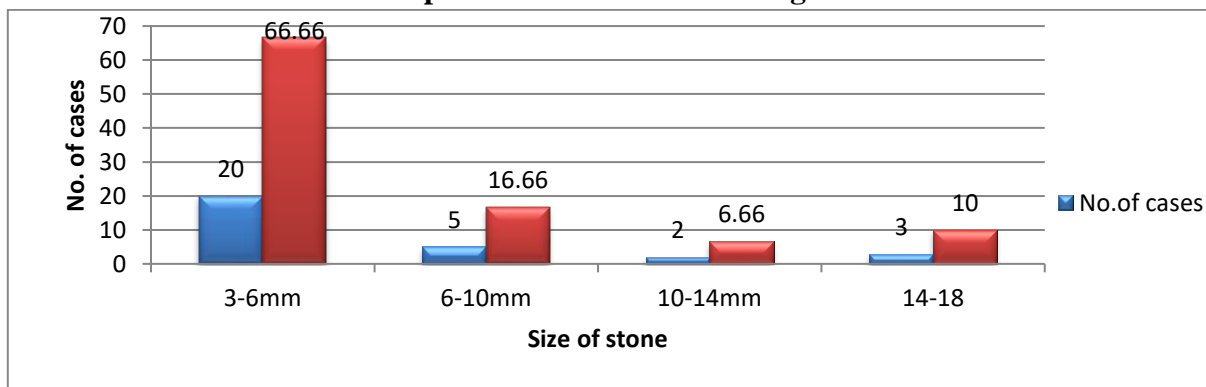
From the above Bar graph one can make a hypothesis that the most common side of Renal Calculi is Bilateral.

**TABLE- 4 Table showing incidences of risk factors like BPH, Gout, Family history of Renal Calculi, past History of Renal Calculi and UTI in 30 patients of Renal Calculi.**



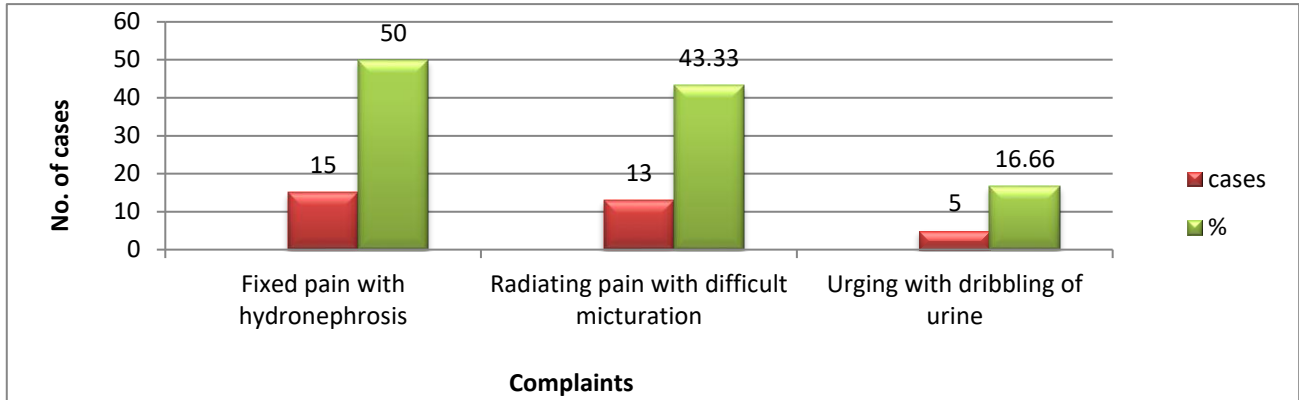
From the above Bar graph one can make a hypothesis that the most common Risk factor is past history of renal calculi.

**TABLE- 5 Distribution of cases as per the size of stones at diagnosis in 30 cases of Renal Calculi.**



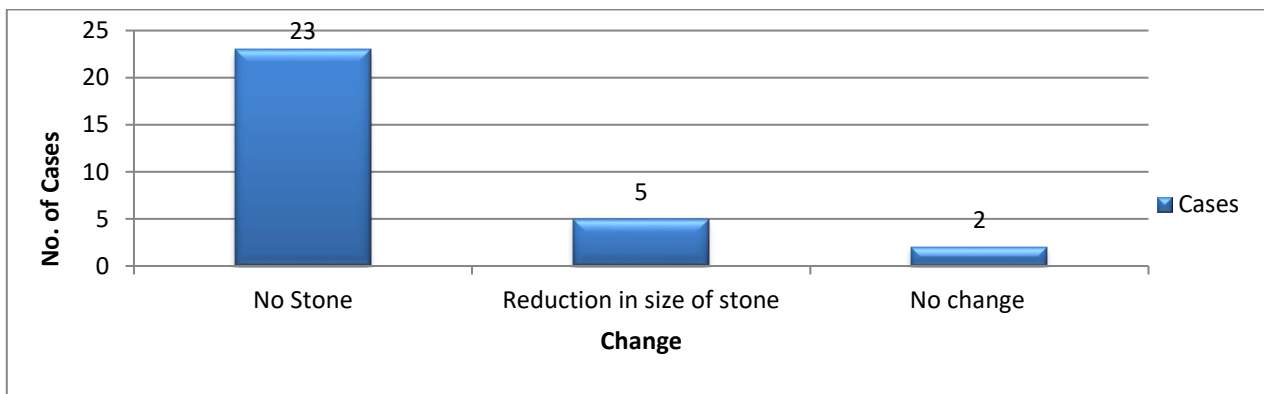
From the above Bar graph one can make a hypothesis that the most common size of Renal Calculi is 3-6mm.

**Table- 6 Distribution of cases according to their complaints.**



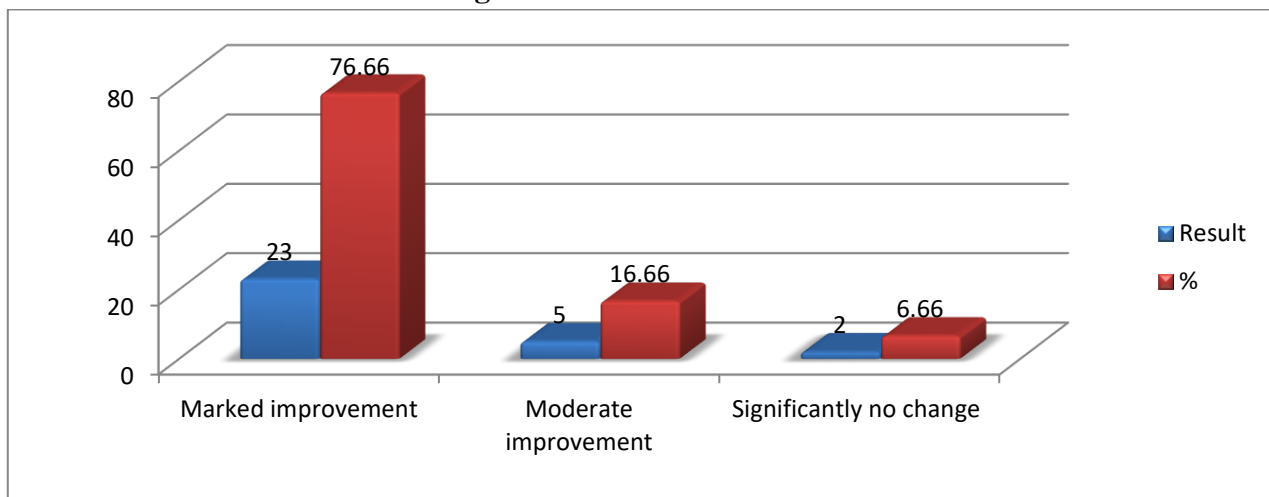
From the above Bar Graph one can make a hypothesis that the most common symptom of Renal Calculi patients was Pain, fixed at renal angle with Hydronephrosis.

**TABLE 7 Analysis of change in calculi size and location after treatment of 30 cases of Renal Calculi.**



From the above Bar graph one can make a hypothesis that, after Homoeopathic treatment in 23 patients (76.66%) there was complete dissolution of stone i.e. at the end of the study USG Abdomen revealed no stone anywhere in urinary tract.

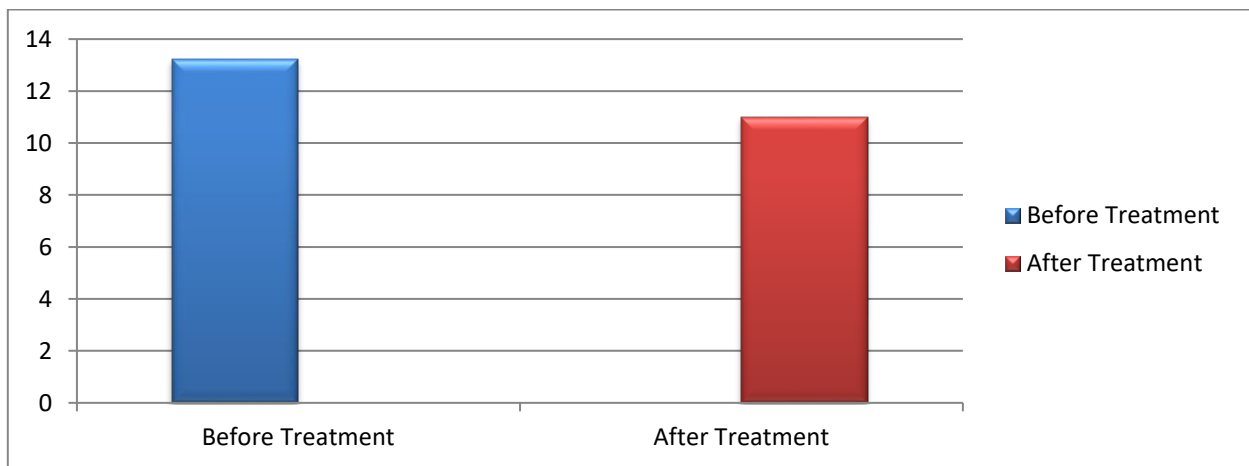
**TABLE -8 Table showing result of treatment in 30 cases of Renal Calculi.**



From the above Bar graph one can make a hypothesis that after interventional treatment improvement was seen in maximum number of patients.

**Table 9 t-TEST for Urolithiasis Symptoms Score (USS)**

	Mean + Standard Deviation (SD)	Total	(p) Value
Before Treatment	10.53 + 2.71	13.24	< 0.01
After Treatment	6.2 + 4.80	11.00	



From 30 cases one can make a hypothesis that the data is Quantitative and the sample size is in the range (30) so “t-TEST” can be used.

As the before and after treatment data is of the same individual one can use a paired, double tailed t-TEST.

**The value of “p” after the t-TEST is less than 0.01. Since the value of p is less than 0.05, the experiment is proved to be significant.**

**RESULT AND DISCUSSION:**

This study was conducted on 30 diagnosed patients of Renal Calculi. A total 30 cases were selected and followed up for a period of 6 months. Selected cases were above 18 years of age. The cases were diagnosed on the basis of Radiological investigations. This study was conducted to assess the effectiveness of Homoeopathic Mother Tincture Bryophyllum Calycinum (Q) in the treatment of Renal Calculi cases.

Assessment of the patients was done before the treatment and after the treatment. Cases were reviewed at regular interval and follow up criteria was framed for assessing the changes observed. The statistical analysis such as, distribution of cases according to age, sex, location, risk factors, size of stone, complaints and change were calculated and interpreted. This study gives us insight in various aspects of Renal Calculi.

**Response to treatment:** In the study, 23 patients (76.66%) had complete dissolution of stone ( Marked Improvement), 05 patients (16.66%) had reduction in the size of stone ( Moderate Improvement) and in 02 patients (6.66%) no change occurred out of 30 cases ( Not significantly improved) out of 30 cases according to Ultrasonography (Abdomen).



Sr. no.	Age of the patient.	Sex of the patient	Site and Size of the stone	Lab Test	Prescription	No. of intermediate visit	Outcome	Duration of treatment
1.	26 years	Female	Rt. Kidney = 4.5mm, Rt. Ureter = 4mm.	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
2.	26 years	Male	Rt. Kidney = 4.7mm & 7.9mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
3.	40 years	Male	Lt. Kidney = 13 mm	USG	Bryophyllum Calycinum Q	12 visits	Stone size reduced to 9.6 in rt. lower ureter.	06 months
4.	28 years	Male	Rt. Ureter = 5.5mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
5.	22 years	Female	Lt Kidney = 16 mm	USG	Bryophyllum Calycinum Q	12 visits	Stone size reduced to 5.3mm	06 months
6.	40 years	Male	Lt. Kidney = 4mm, Lt. Ureter = 9.9x 3.3mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
7.	33 years	Female	Rt. & Lt. Calyces = 3.4mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
8.	38 years	Male	Rt. Kidney = 14.7 & 5-6mm	USG	Bryophyllum Calycinum Q	12 visits	No change	06 months
9.	53 years	Female	Rt. Kidney = 9mm, Lt. Kidney = 8mm	USG	Bryophyllum Calycinum Q	12 visits	Stone size reduced to 3.2mm in rt. calyx and no stone in lt. side.	06 months

10.	22 years	Female	Rt. Kidney = 3.6mm Lt. Kidney = 5.2mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
11.	33 years	Male	Rt. Kidney = 4.3mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
12.	29 years	Male	Rt. & Lt. Kidney = 2mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
13.	32 years	Male	Rt. Kidney = 3.4 mm, Rt. Ureter = 5.6 mm. Lt. Kidney = 5.5mm, 3.8 mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
14.	55 years	Female	Lt. Ureter = 5.4mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
15.	61 years	Male	Rt. Kidney = 8.3mm, 8mm Lt. Upper Calyx = 7mm, Lt. Middle Calyx = 8.5mm, 8.3mm Lt. Lower Calyx = 6.7mm, 5.7mm.	USG	Bryophyllum Calycinum Q	12 visits	No Change	06 months
16.	29 years	Male	Lt. Ureter = 4mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
17.	21 years	Female	Rt. Kidney = 5.4mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with	06 months

							no any stone	
18.	28 years	Male	Lt. Kidney = 9mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
19.	31 year	Male	Lt. Kidney = 4.6mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
20.	23 years	Female	Lt. Kidney = 5.7mm Lt. Ureter = 3.3mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
21.	38 years	Female	Rt. & Lt. kidney = 4mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
22.	30 years	Male	Rt. Kidney = 18.6 mm Lt. Ureter = 9.4mm	USG	Bryophyllum Calycinum Q	12 visits	Stone size reduced to 5.6mm on rt. side and no ant stone on lt. side	06 months
23.	33 years	Male	Lt. Ureter = 4mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
24.	34 years	Male	Rt. & Lt. Kidney = 5.6mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
25.	36 years	Male	Rt. Kidney = 6.6mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
26.	48 years	Male	Rt. Kidney = 14mm	USG	Bryophyllum Calycinum Q	12 visits	Stone size reduced to 3.6mm	06 months
27.	31 years	Female	Lt. Kidney = 5.4mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with	06 months

							no any stone	
28.	26 years	Female	Rt. Kidney = 4.7mm, 3.7mm Lt. Kidney = 4.2mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
29.	23 years	Male	Rt. Kidney = 7.8mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months
30.	26 years	Male	Rt. Ureter = 5mm	USG	Bryophyllum Calycinum Q	12 visits	Normal USG with no any stone	06 months

## CONCLUSION

Conclusions were arrived after statistical analysis of the patients. The following conclusions were drawn out from the study.

1. A Renal Calculus was most commonly observed in the middle age group. Majority of the patients belongs to age group 21-40 years.
2. The prevalence is more in Males (63.33%) than in Females (36.66%).
3. Calculus was seen in Kidneys more frequently, than in ureter.
4. The possible risk factors are positive past history of Renal Calculi in 14 patients (46.66%), which denotes the recurrence of Renal Calculi.
5. The mostly marked complaints of patients having renal calculus are:-
  - Fixed pain at renal angle with Hydronephrosis (grade 1) and radiating pain.
6. A general improvement in the condition is noted after the administration of Homoeopathic Mother Tincture Bryophyllum Calycinum (Q).
7. After homoeopathic treatment, Marked improvement is seen in 23 patients (76.66%) out of 30, shows complete dissolution of stone, reveal no stone in USG Abdomen at the end of the Study.
8. A homoeopathic Mother Tincture Bryophyllum Calycinum (Q) is quite effective in the management of acute renal colic and is litholytic, which promotes expulsion of stone and offer a rapid, gentle and permanent cure in most reliable and most harmless way to the patients of Renal Calculi.
9. After statistical Analysis it has been found that,

**The value OF “p” after the t-TEST is < 0.01. Since the value of p is less than 0.05, so the Null Hypothesis is rejected and the Experiment is proved to be significant.**

**So, this study shows significant change in the Urolithiasis Symptoms Score (USS) along with removal of stone after the treatment. Therefore, BRYOPHYLLUM CALYGINUM (Q) is an effective in the treatment of Renal Calculi.**

## Summary

In the study, “Effectiveness of Homoeopathic Mother Tincture Bryophyllum Calycinum in the treatment of Urolithiasis Patients”, 30 cases were taken following inclusive criteria to develop evidence based support to access the effectiveness of Homoeopathic Mother Tincture Bryophyllum Calycinum (Q) in the management of acute Renal colic and to established the curative efficacy of Bryophyllum Calycinum (Q) in the cases of Renal Calculi.

Out of 30 cases of Renal Calculi, Males and Females of different ages and having different family background were examined, treated and analyzed for the effect of Homoeopathic Mother Tincture Bryophyllum Calycinum (Q) in Renal Calculi.

The findings of earlier open studies and common belief that homoeopathy has curative role in the treatment of Renal Calculi is re-established in this study as majority number of patients were found improved. It was seen that frequency, severity and occurrence of lesions were reduced through Homoeopathic Mother Tincture Bryophyllum Calycinum (Q).

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All authors manifest that there is no conflict of interests.

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