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Review article

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### A review study on traditional medicine in curing the kidney stones

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#### ABSTRACT

The greatest risk factor for kidney stones is making less than one liter of urine per day. Therefore, kidney stones are common in premature infants who have kidney problems. Kidney stones are most likely to occur between the age group of 20 and 40. Different factors can increase a risk of developing a stone in the kidney. Asians are more likely to have kidney stones than African s and Americans. Sex also plays a role, with more men than women developing kidney stones, according to the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). A history of kidney stones can increase your risk, as does a family history of kidney stones. Other risk factors include Dehydration, Obesity, High-protein, salt, or glucose diet, hyper parathyroid condition, Gastric bypass surgery, inflammatory bowel diseases that increase calcium absorption taking medications such as diuretics, anti-seizure drugs, and calcium-based antacids.

**Keywords:** Bryophyllum Pinnatum, Kidney stones, CaOx (Calcium Oxalate) Ultrasonography and X-Rays.

#### INTRODUCTION

Bryophyllum pinnatum in Hindi it is being called as PattaChetti is being used as curing and elimination of Kidney stones. Kidney stones are hard masses formed in the kidneys, typically consisting of insoluble calcium compounds, called as renal calculus. The greatest risk factor for kidney stones is making less than one liter of urine per day so, according to our study, the treatment for it was done by bryophyllum pinnatum leaf extract. Bryophyllum pinnatum, also known as Pashan Bheda / Patharchur, which is a succulent perennial herb, which grows up to 1m- 2m in height, this is found in the Himalayas, Kashmir and Khasi Hills of Assam. It is especially effective in the treatment of Kidney and Gallbladder stones. The plant grows

all over India in hot and moist areas, especially in Bengal. It is a succulent perennial plant that grows 1-1.5 m in height and the stem is hollow four-angled and usually branched. Leaves are opposite, decussate, succulent, 10-20 cm long. The lower leaves are simple, whereas, the upper ones 3-7 foliate and are long-petioled. They are fleshy dark green that are distinctively scalloped and trimmed in red. Leaf blade pinnately compounds with 3-5 leaflets, 10-30 cm; petioles 2-4 cm; leaflet blades oblong to elliptic, 6-8 X 3-5 cm, margin crenate with each notch bearing a dormant bud competent to develop into a healthy plantlet, apex obtuse. The leaves are furnished with rooting vegetative buds. Inflorescences terminal paniculate 10-40 cm. Flowers are much bell-like pendulous. Calyx

tubular, 2-4 cm; Corolla reddish to purple, 5 cm, base sparsely ciliate; lobes ovate-lanceolate; stamens inserted basally on corolla; Nectar scales oblong; follicles included in calyx and corolla tube. The fruit-pod with four septa and numerous, ellipsoid, smooth striate seeds within, The plant flowers in Nov-Mar and fruits in April.

In traditional medicine, the leaves of this plant have been used for antimicrobial, antifungal, antiulcer, anti-inflammatory, analgesic, antihypertensive potent anti-histamine and anti-allergic activity. The Creoles use the lightly roasted leaves for cancer, inflammations, and a leaf infusion for fevers. The Palikur mix the leaf juice with coconut oil or andiroba oil and then rub it on the forehead for migraines and headaches. To the Siona indigenous peoples heat the leaves and apply them topically to boils and skin ulcers. Along the Rio Pastaza in Ecuador, natives use a leaf infusion for broken bones and internal bruises. In Peru, indigenous tribes mix the leaf with aguardiente (sugar cane rum) and apply the mixture to the temples for headaches; they soak the leaves and stems overnight in cold water and then drink it for heartburn, urethritis, fevers and for all sorts of respiratory conditions. The root infusion is also used in epilepsy. Other tribes in the Amazon squeeze the juice from fresh leaves and mix it with mother's milk for earaches [1-5].

In this paper, we intended to give the extract for 5 patients and Suggested them to take it for 20 days: 20ml morning (empty stomach) + 20ml

(evening), assessment of their status was done after 1month, we observed that their kidney stones are expelled out with this medicine. The divine herb contains a wide range of active compounds, including alkaloids, triterpenes, glycosides, flavonoids, steroids, bufadienolides, lipids and organic acids, have been isolated from this species. The plant is widely used in traditional medicine for the treatment of a variety of ailments and well known for its hemostatic and wound healing properties [3].

## PREPARATION OF B. PINNATUM LEAF EXTRACT

Take ten Leaves of B. pinnatum and wash them. Then Place them in water and boil for few minutes. Collect the extract in Amber Colored bottle [6].

## METHODOLOGY

Accordingly, we have performed a study on 5 Patients by giving bryophyllum pinnatum leaf extract. Where the patient's Ultrasonography and X-Ray reports of "before treatment and after treatment" were recorded. The patients with kidney stones of size <20mm were treated with B. Pinnatum leaf extract. The results of ultrasonography and X-ray films were done after treatment and thereby results were gained with no calculi noted in the patients [7].

### PATIENT DETAILS: (Reports): (Before treatment)

S.No	Age:	Gender:	Ultra-Sonography and x-ray films:	
			KIDNEY SIZE (NORMAL) LEFT 104 x 49 mm	RIGHT 100 x 41mm
1.	35 yrs	Male	<b>Impression:</b> CALCULUS GB ,LEFT HYDRONEPHROSIS CALCULUS MID URETER	
2.	32 yrs	Male	<b>Impression:</b> LEFT MILD HYDRONEPHROSIS,14 mm CALCULUS NOTED	
3.	39 yrs	Female	<b>Impression:</b> LEFT MILD HYDRONEPHROSIS,14 mm with 8mm proximal ureteric Calculus.	
4.	42 yrs	Female	<b>Impression:</b> LEFT MILD HYDRONEPHROSIS,12 mm CALCULUS NOTED	
5.	45 yrs	Male	<b>Impression:</b> CALCULUS GB ,LEFT HYDRONEPHROSIS CALCULUS MID URETER	

## DISCUSSION

Bryophyllum pinnatum is commonly known as PattaChetti in Indian traditional systems of medicine which implies its stone breaking property. The leaves of the plant are widely used by tribal and other populations for treatment of stones. Despite its wide traditional use, the scientific studies are limited to delineate its antilithiatic effect. The present study was undertaken to observe the efficacy of the leaf extract in treating kidney stones. Formation of CaOx crystals causes reduction in glomerular filtration rate, which further decreases excretion of Na<sup>+</sup>, Cl<sup>-</sup> and Ca<sup>+2</sup>, and promotes stone formation leaf extract, Bryophyllum pinnatum has been effective by reducing the size and promoting the formation of CaOx dihydrate in place of CaOx Monohydrate which is more injurious to renal epithelia. Control

of crystal size and formation of COD rather than COM crystals, in combination with the diuretic action of the extract, is an important way to control urolithiasis. It is noteworthy that plant is reported for considerable high levels of citric acid, malic acid, and malate, which might be helpful to increase urine citrate levels. This is an important finding, as citrate is universally regarded as an effective inhibitor of the calcium oxalate stone formation [4].

The relative supersaturation of calcium oxalate decreased significantly and the increase in pH, suggesting dilution effects. The studies suggest that juice may have antilithogenic properties (with respect to the relative supersaturation of calcium oxalate). The significantly higher urine volumes produced by the juice is an indication of fluid compliance and gives confidence in these data.

### PATIENT DETAILS: (Reports): (After treatment)

S.No	Age:	Gender:	Ultra-Sonographs and x-ray films:		
			KIDNEY SIZE (NORMAL)	LEFT 104 x 49 mm	RIGHT 100 x 41mm
1.	35 yrs	Male	Impression: NORMAL in Size Wall Thickness NO CALCULI		
2.	32 yrs	Male	Impression: NORMAL in Size Wall Thickness NO CALCULI		
3.	39 yrs	Female	Impression: NORMAL in Size Wall Thickness NO CALCULI		
4.	42 yrs	Female	Impression: NORMAL in Size Wall Thickness NO CALCULI		
5.	45 yrs	Male	Impression: NORMAL in Size Wall Thickness NO CALCULI		

## RESULTS

The number of calcium oxalate monohydrate crystals which are injurious to epithelial cells gradually reduced and at the highest concentration of extracts (100 mg/ml) completely disappeared. The size of the crystals gradually reduced with the increasing concentration of the extract. Gradually the stones in kidney were disintegrated and passed out from urine. Successfully patient's symptoms

were relieved within a duration of 30 days of treatment.

## CONCLUSION

It may be concluded from the study that taking the fresh juice of B. pinnatum favorably remove the medium and small sized stones regardless of its position and nature by altering important risk factors for stone formation, and as such, it deserves to be considered as therapeutics in managing this

condition. However, the study lacks the long term follow ups which are required to clarify the exact role of the plant juice for preventing the lithiasis. But it also provides the possibility of developing a non-toxic and low-cost alternative for treating or

preventing lithiasis. Thereafter we conclude that patients with kidney stones of size <16mm were cured with B. Pinnatum Leaf extract, the extract worked efficiently in treating kidney stones.

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