



FOLK MEDICINAL THERAPY USED IN THE TREATMENT OF RENAL CALCULI (KIDNEY STONE) IN MAHARASHTRA: A REVIEW

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Abstract

Medicinal plants have been known from time immemorial and are highly known all over the world as a rich source of the therapeutic agents for the prevention of various ailments. Today a large number of people are suffering from kidney ailments like Nephrolithiasis, Ureterolithiasis and Urolithiasis. This causes serious health problems such as severe pain, urinary-tract obstruction and infection that adversely affect well-being of the individuals. Many synthetic drugs like diuretics and narcotic analgesics are being used in treatment of kidney stone but overuse of synthetic drugs, which results in higher incidence of adverse drug reactions have motivated humans to return to nature for safe remedies. In the present article, an attempt has been made to emphasis on kidney stones that can be treated by folk medicinal plants from different regions of Maharashtra.

Keywords: Medicinal plants, Kidney Stones, Maharashtra

Introduction:

The kidneys are bean-shaped organs found on the left and right sides of the body in vertebrates. They filter the blood in order to make urine, to release and retain water, and to remove waste. They also control the ion concentrations and acid-base balance of the blood. Each kidney feeds urine into the bladder by means ureter. When the bladder fills, there is an urge to urinate, and the bladder empties through the urethra. Occasionally, waste products in the kidneys can form crystals that collect around the inside of the kidney. Over time, the crystals may build up to form a hard stone-like lump called kidney stone. The acid-base balance (pH) of the urine and the concentration of minerals and chemicals within the urine are all factors that can signify the formation of a stone. Concentrated urine often occurs during an episode of dehydration, setting the stage for the beginning of stone formation. Kidney stone causes pressure and swelling within the kidney. It causes pain that starts from the lower back and radiates to the front of abdomen. The severity of the pain does not depend on the size of the stone, but it rather depends on the amount of obstruction and Kidney swelling. If not treated the intense pain would be continuous and would considerably increase.

Medicinal plants have been known from time immemorial and are highly known all over the world as a rich source of therapeutic agents for the prevention of various ailments. Many plants have been used for the treatment of kidney stones in traditional system of medicine throughout the world. Indeed along

with dietary measures, plant preparation formed the basis of treatment of various diseases until the introduction of allopathic medicine. Ethnobotany and ethnopharmacology has been seen as a tool for drug discovery (Schultes 1962), a mode of ascertaining conservation (Cox 1997).



Figure 1: Map of India (Location of Maharashtra shown in red)

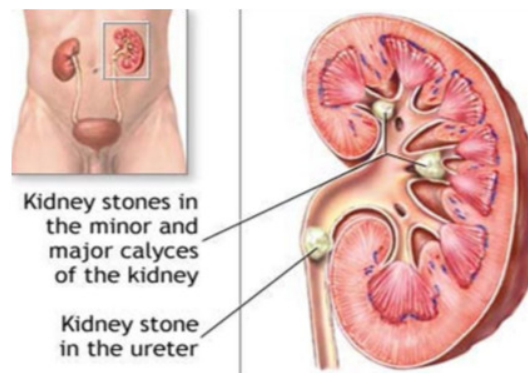


Figure 2: Internal structure of Kidney and positions of Kidney Stones

Table: List of Medicinal Plants used in Maharashtra on Kidney Stone.

S.N	Botanical name	Family name	Local name	Plant part/s used and administration of a drug	Ref.
1	<i>Abutilon indicum</i> (Link) Sweet	Malvaceae	Mudra, Petari, Atibala	Root bark.	19
2	<i>Acacia arabica</i> L.	Mimosaceae	Babul	Stem bark, Gum, Fruits.	19
3	<i>Acacia catechu</i> Willd	Mimosaceae	Khair	Stem Bark, Resinous extract.	19
4	<i>Achyranthes aspera</i> L.	Amaranthaceae	Aghada	Leaves.	15
5	<i>Adhatoda vasica</i> Medic.	Acanthaceae	Adulsa	Whole plant.	19
6	<i>Aegle mormelos</i> L.	Rutaceae	Bel	Root.	19
7	<i>Aerva lanata</i> L.	Amaranthaceae	Kapumadhura, Mhatari, Kuprui, Gorakhbuti	<ul style="list-style-type: none"> • Inflorescence. • Decoction of complete plant is used. • Whole plant is used for treatment of maintaining blood sugar to optimum level and removing stones from kidneys. 	4, 12, 15, 24
8	<i>Amaranthus caudatus</i> L.	Amaranthaceae	Rajgira	Leaves extract is given.	3
9	<i>Amaranthus viridis</i> L.	Amaranthaceae	Chawali	All parts of the plant.	3
10	<i>Amaranthus spinosa</i> L.	Amaranthaceae	Katmath	1-2-gm of stem ash powder with water is taken internally for 1-2 weeks.	21
11	<i>Anogeissus latifolia</i> (Roxb. ex.DC.)	Combretaceae	Dhawada	Stem bark.	19
12	<i>Asparagus racemosus</i> Willd.	Liliaceae	Shatmuli	Tender shoots.	19
13	<i>Azadirachta indica</i> A.Juss.	Meliaceae	Kaduneem	Stem bark, Leaves.	19
14	<i>Baliospermum montanum</i>	Euphorbiaceae	Danti	Root, leaves and seeds	4
15	<i>Basella alba</i> L.	Basellaceae	Velbandi	<ul style="list-style-type: none"> • Flowers. • Whole plant. 	18, 19
16	<i>Bauhinia racemosa</i> Lam.	Caesalpiniaceae	Apta	Stem bark.	19
17	<i>Beta vulgaris</i> L.	Amaranthaceae	Beet	Daily two glass of rhizome juice is given.	3
18	<i>Biophytum sensitivum</i> (L.) DC.	Oxalidaceae	Lajalu	<ul style="list-style-type: none"> • Decoction of root is given 3 times a day. • Fresh leaves decoction is taken in morning and evening. • Whole plant. 	8, 19
19	<i>Bombax ceiba</i> L.	Bombacaceae	Kate-sawar	<ul style="list-style-type: none"> • Dry fruit is used in the form of extract or powder before breakfast daily. • Bark powder 5gms 3 times a day is useful for urination. 	8

20	<i>Borhrravia diffusa</i> L.	Nyctaginaceae	Punamava, Raktavasu	<ul style="list-style-type: none"> • Whole plant is used for treatment of asthma and kidney stone. • Roots are boiled with the milk and are taken. • Root decoction is given daily for one month. 	3, 12
21	<i>Bridelia retusa</i> Sprang	Euphorbiaceae	Ftthar fode	Leaves.	4
22	<i>Bryophyllum pinnatum</i> (Lam.) Oken	Crassulaceae	Amti, Panphuti	Leaves.	19
23	<i>Butea monosperma</i> (Lam.) Taub.	Fabaceae	Palas	<ul style="list-style-type: none"> • Leaves juice or decoction is useful. • Seed powder in one teaspoon after meals is taken. 	8, 11
24	<i>Caesalpinia bonduc</i> (L.)	Caesalpinaceae	Sagargoti	Fruits.	19
25	<i>Cassia fistula</i> L.	Caesalpinioideae		Fruit powder is given with water for 3-4 months.	3
26	<i>Celastrus paniculata</i> Willd.	Celastraceae	Mal kanguni	Fresh leaves crushed and mixed with curd are given before breakfast-no intake except water up to 3pm.	8
27	<i>Celosia argenticia</i> L.	Amaranthaceae	Kurdu	<ul style="list-style-type: none"> • Root decoction if taken in morning gives good results. • Seed powder taken in a gap of 4 hours, gives very good results. • Two teaspoon root extract is mixed with 5g sugar candy and 2g Jire (<i>Cuminum cyminum</i>) powder and it is given early in the morning for seven days. • One tablespoonful seeds are powdered and this is boiled in 300 ml of water until it reduces to 75 ml. this is then administered twice a day for 7 to 10 days. 	1, 6, 8, 20
28	<i>Celosia cristata</i> L.	Amaranthaceae	Kurdu	Root extract.	16
29	<i>Chenopodium album</i> L.	Chenopodiaceae	Chandan batava	Whole plant.	19
30	<i>Commiphora mukul</i> (Stocks) Hook.	Burseraceae	Gugal	Gum.	4
31	<i>Cordia dichotoma</i> (L.)	Boraginaceae	Bhokar	Stem Bark, Fruits.	19
32	<i>Coriandrum sativum</i> L.	Umbelliferae	Dhaniya	Leaves and fruits.	4
33	<i>Costus speciosus</i> (koen.)	Costaceae	Khambari	Decoction of tubers is taken orally.	3
34	<i>Crataeva religiosa</i> Forst. f.	Capparaceae	Varun	Bark and leaves.	22, 4

35	<i>Crateva adansonii</i>	Capparaceae	Waiwarnna	Bark is used in the form of powder or decoction before breakfast.	8
36	<i>Cucumis sativus</i> L.	Cucurbitaceae.	Kakadi	5g seed powder is mixed with 5g of Jire (<i>Cuminum cyminum</i>) powder and 5g sugar and it is given along with water twice a day for three days.	6
37	<i>Cynodon dactylon</i> (L.)	Poaceae	Durva	Whole plant.	19
38	<i>Datura Metel</i> L.	Solanaceae	Dhotara	Leaves and flowers.	4
39	<i>Daucas carota</i> L.	Apiaceae	Gajar	One glass juice is given for night to remove kidney stone.	3
40	<i>Dioscorea bulbifera</i> L.	Dioscoreaceae	Manakund	Tubers.	19
41	<i>Dolichos biflorus</i> L.	Fabaceae	Kulith	Seeds.	4
42	<i>Drimia indica</i> (Roxb.)	Asparagaceae	Jungli piyaz	Bulb extract is useful in morning before breakfast.	8
43	<i>Eclipta alba</i> L.	Asteraceae	Bhrangarajah	Whole plant.	4
44	<i>Enicostema axillare</i> (Poir. ex Lam.)	Gentianaceae	Nai, Naya	20g plant powder is mixed with 20g seed powder of Sag (<i>Tectona grandis</i>) along with water. It is given orally twice a day for 4 days.	6
45	<i>Ensete superbum</i> (Roxb.)	Musaceae	Jangli keli	Half foot peduncle is eaten raw which leads to excessive urination and gets relief from kidney stone.	7
46	<i>Gardenia resinifera</i> Roth	Rubiaceae	Dikemali	One teaspoon fruit powder is given twice a day for three days.	6
47	<i>Gmelina arborea</i> Roxb.	Verbenaceae	Shivan	Roots.	19
48	<i>Hemidesmus indicus</i> (L.) R. Br.	Apocynaceae	Anantmul	<ul style="list-style-type: none"> • Root powder is given daily morning, afternoon and evening. • Leaf decoction is used in morning and evening. 	8
49	<i>Holarrhena antidysenterica</i> (Linn.) Wall	Apocynaceae	Pandhra kuda	10g bark powder is mixed with 50ml curd and it is given orally twice a day for one week.	6
50	<i>Holarrhena pubescens</i> Wall, ex G. Don.	Apocynaceae	Pandhara kuda, Indrajaw	<ul style="list-style-type: none"> • Internal bark powder one teaspoon in morning and evening. • Stem powder used before meals. • Seed powder is taken before breakfast. 	8
51	<i>Hygrophila auriculata</i> (Sch.) Heine	Acanthaceae	Talimkhana	Roots.	19
52	<i>Kalanchoe pinnata</i> (Lam.)	Craussulaceae	Panphuti	Fresh leaves juice is given at any time.	8
53	<i>Lagenaria siceraria</i> (Molina) Standl.	Cucurbitaceae	Dudhi bhopla	One cup of fruit juice is advised twice a day for seven days.	6
54	<i>Lagerstroemia parviflora</i> L.	Lythraceae	Lendya	Roots are crushed and 1-2 gms are swallowed once a day, till gets rid of kidney stone.	21
55	<i>Lawsonia inermis</i> L	Lythraceae	Mendi	Leaves.	9

56	<i>Luffa acutangula</i> (L.) Roxb.	Cucurbitaceae	Dodka	Two teaspoon root extract is given thrice a day for three days.	6
57	<i>Macratyloma uniflorum</i> (Lam.)	Fabaceae	Kulthi, Kulith	Boiled Fruits with cold water is given thrice a day.	8
58	<i>Madhuka longifolia</i> (J.Konig)	Sapotaceae	Moh	2 cm stem bark powder is soaked in 1 glass of water overnight. In morning, a pinch of white pepper powder and cumin seed powder is added and taken at empty stomach. This is taken once in a week. Total 60 doses are required.	11
59	<i>Mangifera indica</i> L.	Anacardiaceae	Amba	Flowers.	19
60	<i>Mentha spicata</i> L.	Lamiaceae	Pudina	Fresh leaves should be taken with salt after a particular interval of day.	8
61	<i>Meyna laxiflora</i> Robyns, Bull. Jard	Rubiaceae	Alu, Helu	Five pinches of seed powder is mixed with water and given twice a day for 15 days.	13
62	<i>Mimosa pudica</i> L.	Mimosaceae	Lajalu, Lajwanti	<ul style="list-style-type: none"> • Leaf juice is added in tea and used time to time. • Root powder is given before breakfast. 	8
63	<i>Momordica diocia</i> Roxb. ex. Willd.	Cucurbitaceae	Kartoli	Roots, Fruits.	19
64	<i>Mucuna pruriens</i> (L.) DC.	Papilionaceae	Khaj Kuiri	Roots, Seeds.	19
65	<i>Murraya Koenigii</i> L.	Rutaceae	Kurry patta	Leaves.	4
66	<i>Ocimum sanctum</i> L.	Lamiaceae	Tulas	Leaves juice + Honey.	19
67	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Tulsi, Tulas	Entire plant should burn and ash mixed with water is given thrice a day.	8
68	<i>Phyllanthus amarus</i> Schum. & Thonn.	Euphorbiaceae	Bhui Awali	Whole plant.	19
69	<i>Phyllanthus fraternus</i> (Webster.)	Euphorbiaceae	Bhuiawala	<ul style="list-style-type: none"> • Whole plant. • Plant extract is given orally for 3-4 day. 	3
70	<i>Punica granatum</i> L.	Punciaceae	Anar, Dalimb	Seed juice is given before breakfast	8
71	<i>Raphanus sativus</i> (L.) Domin	Brassicaceae	Mula	<ul style="list-style-type: none"> • Root juice is given after meals. • Leaf juice is given before breakfast. • Seed powder is useful before breakfast. 	8
72	<i>Sesamum orientale</i> L.	Pedaliaceae	Til	Half cup of fruit juice is mixed with three spoonful honey and one cup of cow milk is given thrice in a day for one week.	6
73	<i>Sida cordifolia</i> L.	Malvaceae	Chikana	Roots.	19
74	<i>Solanum nigrum</i> L.	Solanceae	Makoi	Fruits.	19
75	<i>Spinacia oleracea</i> L.	Chenopodaceae	Palak.	Half cup of leaf decoction is administered twice a day for three days.	6

76	<i>Tamarindus indica</i> L.	Caesalpiniaceae	Imli, Chinch	Dry exocarp of the pod is boiled in the water; this filtered water is given twice a day.	8
77	<i>Tectona grandis</i> (L.f.) Lam.	Lamiaceae	Sagwan, Sag	<ul style="list-style-type: none"> Mixture of seed powder, cow's milk and ghee is used. 10g seed powder with 50ml of cow milk is given orally twice a day for eight days. 	2,6, 20
78	<i>Tephrosia purpurea</i> (L.) Pers.	Fabaceae	Sharapunkha, Unhali	<ul style="list-style-type: none"> Root powder or juice is useful if taken morning and evening. Leaf decoction (one glass) before breakfast is given. Entire plant boiled and juice is given after particular intervals. 	8
79	<i>Terminalia arjuna</i> (Roxb.) Wight & Am.	Combretaceae	Arjun, Sadada	Bark powder is given after breakfast, lunch and dinner.	8, 19
80	<i>Tinospora cordifolia</i> (Wild.L)	Menispermaceae	Gugul	Crushed stem is given orally to expel the stone.	3
81	<i>Tribullus terrestris</i> L.	Zygophyllaceae	Gokharu, Sarata	<ul style="list-style-type: none"> Roots, Fruits & Seeds. One teaspoon fruit powder is given orally twice a day for three days. Leaves decoction is taken in morning and evening. Fruit juice or extract is used in morning and evening. 	3,6, 8, 15, 19
82	<i>Tridax procumbens</i> L.	Asteraceae	Kambarnodi	Leaf paste is given.	3
83	<i>Zea mays</i> L.	Poaceae	Maka	Tassel given orally.	3

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