

**WHATSOEVER
MAY BE THE
AETIOLOGY OF
DISEASES OR
METABOLIC
DISORDERS**

**ALTERED
METABOLISM
MICROBIAL
INFECTIONS**

**OBSTRUCTIVE
UROPATHIES
IMMUNE
DISORDERS**

Ultimately Kidneys are the Victims...

MORE THAN

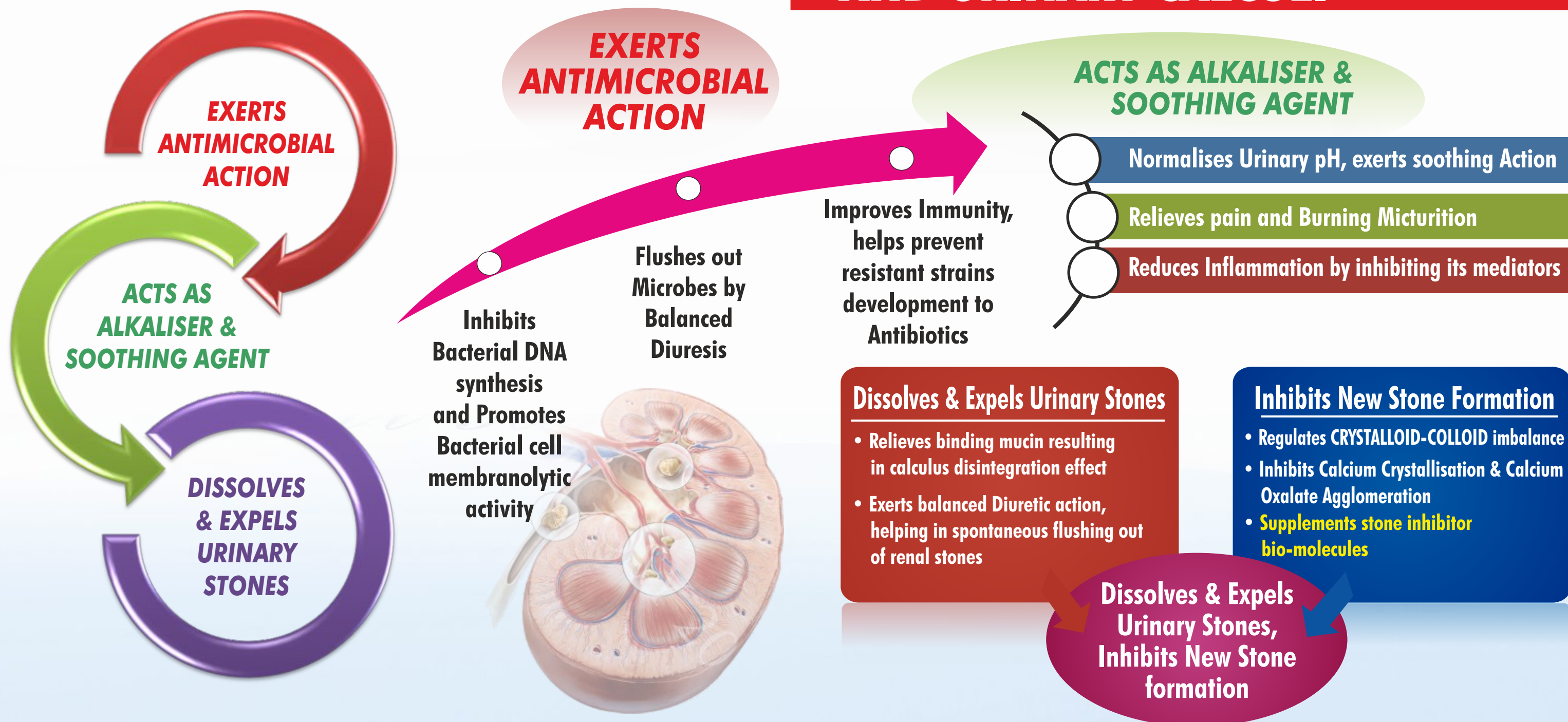
**3 DECADES OF EXPERIENCE WITH YOUR IMMENSE SUPPORT
PROVIDING RELIEF TO PATIENT'S, WITH**



NEERI®

FOR CORRECTIVE & PREVENTIVE MANAGEMENT IN BOTH

URINARY TRACT INFECTIONS AND URINARY CALCULI





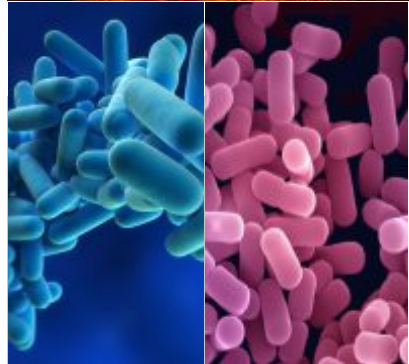
NEERI®



ACTS AS ANTI-MICROBIAL.....with great significance for therapeutic benefit

- Inhibits Gram +ve and Gram-ve bacteria
- Hydrolysis arbutin into Antimicrobial hydroquinones
- Relieves Symptoms of UTI like pain, burning micturition

- Inhibits even the resistant strains
- Supplements Berberine, inhibits bacterial adhesion
- Prevents recurrence of Urinary Tract Infections



Phyto-constituents in Neeri, exert excellent anti -microbial effect against varied gram+ ve and gram-ve bacteria namely Klebsiella, Proteus, Staphylococci, E.coli etc. due to hydrolysis of active principle arbutin into antiseptic hydroquinones, thus inhibits the microbial growth in the system.

A pronounced broad spectrum **Butea monosperma** (Palash) is found to have strong Antimicrobial activity against various gram+ve and gram-ve bacteria like *E.coli* and *proteus* spp. **Berberis** spp. (Daru haridra) rich in the alkaloid 'BERBERINE', was observed against *E.coli*, *Klebsiella*, *Proteus* spp. etc. due to the flavonoidal and terpenoidal components from its flowers. Their activity is due to their ability to complex with extra cellular and soluble proteins and to complex with bacterial cell walls. Moreover, resistant strains of bacteria were also found to be sensitive to the plant extract.

(Ind. J. Forestry I, 2 (4), P-325-339)

(Ind. J. Nat. Prod. 18)

(Cowan. M Clin. Microbial Rev. 1999, 12(4): 564-562)

Piper cubeba (Sheetal Cheeni) in Neeri , has been established for its anti-bacterial activity against various pathogens including *Pseudomonas* spp. etc.

(Chem. Abstract 1987, 106)

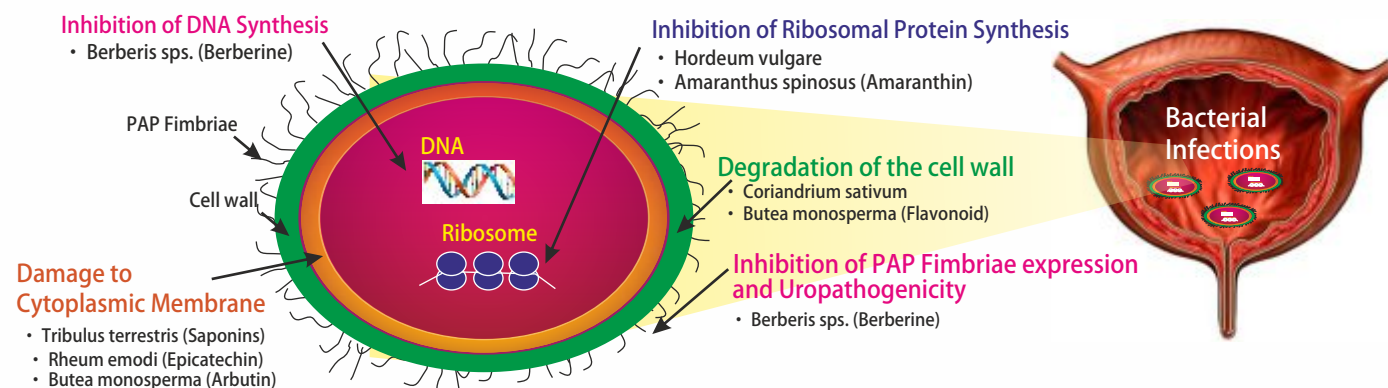
In vitro studies demonstrated antimicrobial activity of extracts of **Coriandrum sativum** (Dhania) against *E.coli*, *S. aureus* and *Salmonella typhimurium*. The hydrophobicity of the essential oil enables them to partition in the lipid of the cell membrane and mitochondria rendering them permeable and leading to leakage of cell contents.

(Int. Jr. of Food Microbiology 94 (2004) : 223-253)



MODE OF ACTION

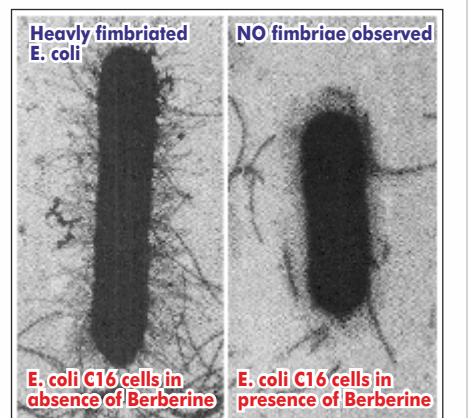
Vital Herbs of NEERI combating Bacterial Infections of Urinary Tract

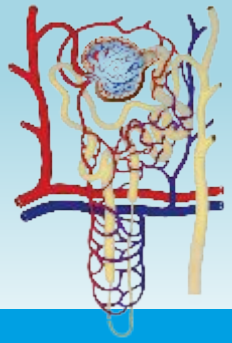


INFLUENCE OF BERBERINE ON BACTERIAL ADHERANCE

The influence of Berberine from **Berberis** spp. (Daru haridra) was investigated upon the adhesion of uropathogenic *E. coli* to erythrocytes & epithelial cells. It increasingly blocked adhesion of *E. coli* organisms. Berberine specifically blocks the synthesis and assembly of Pap fimbriae on the surface of *E. coli* cells. Pap fimbriae are characterized by their ability to mediate the adherence of *E. coli* to Gal-Gal residues on the uroepithelium of the urinary bladder and the kidneys. The ability of berberine to specifically inhibit *E. coli* Pap fimbria expression in vitro explains its effectiveness in the prevention and treatment of UTI and in recurrent cases.

(Sun D et al. Antimicrobial Agents and Chemotherapy, Aug. 1988, p. 1274-1277)





NEERI®



ACTS AS ALKALISER.....helps relieve Burning Micturition in UTI

- Restores the Potassium content
- Supplements citrates
- Elicits positive diuresis

- Maintains the normal Urinary pH range
- Smooth shift to alkalinity, relieves UTI
- Compatible with Antibiotics in UTI's

The aqueous extract of **Tribulus terrestris (Gokshru)** has been shown to restore the potassium content, which is responsible for the alkalizing and balanced diuretic effect of this herb. (J. Ethno. 44 (94)61 -66)

Clinical trial on 84 cases of Urinary Tract Infections accompanied with Pain and Burning Micturition, was conducted with **Crataeva nurvala (Varuna)**. It cured 55% cases and showed improvement in 40% cases, thereby proving the efficacy of **Crataeva nurvala (Varuna)** as an effective Alkaliser in urinary disorders. (Database on med. Plants vol. II)

Butea monosperma (Palash) in Neeri, has been established for its Alkalizer effect in clinical studies and revealed marked improvement in different symptoms of ureteric calculi. Chief complaints like pain, burning micturition and haematuria were relieved markedly after the course of treatment. (J.R.A.S 1995 Vol. XVI, No. 1-2)

Shwet Parpati, Palash Kshar have been documented for their alkaliser property. This combination is proved to be effective in conditions of burning micturition, dysuria etc. It normalizes urinary pH, relieves burning micturition & soothes urinary mucosa. (Indian J. PHA. 4, P-I 12)

Extracts of fruits of **Tribulus terrestris (Gokhru)** was found to be active against Gram+ve and Gram-ve bacteria. The activity of plant was due to the presence of broad spectrum antimicrobial compounds. The mechanism of action of antibacterial effects of saponin from **Tribulus terrestris** involves membranolytic properties.

(Boyatic et al, J. Zhejiang Univ. Sci. B. 2008, 9 (2): 154-159)



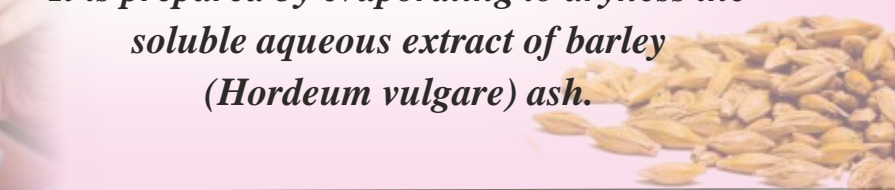
ALKALISE YOUR BODY



YAVAKSHARA

A preparation of barley, has been scientifically proved to be effective in UTI's with Burning Micturition in Kidney friendly manner being a good alkaliser.

It is prepared by evaporating to dryness the soluble aqueous extract of barley (*Hordeum vulgare*) ash.



TRINPANCHMOOL- consisting of **Desmostachya bipinnata (Kush)**, **Imperata cylindrica (Darbh)**, **Saccharum spontaneum (Kas)**, **Saccharum munja (Sar)** and **Saccharum officinarum (Ikshu)** are used in Ayurveda for treatment of a number of diseases and some of the drugs are traditionally used against microbial infections. It was observed that it helps in the natural phenomenon of urinary secretion & relieving associated complications of UTI viz. Burning Micturition, Dysuria, Dribbling, Suppression of Urine, Pain & Fever to a great extent.

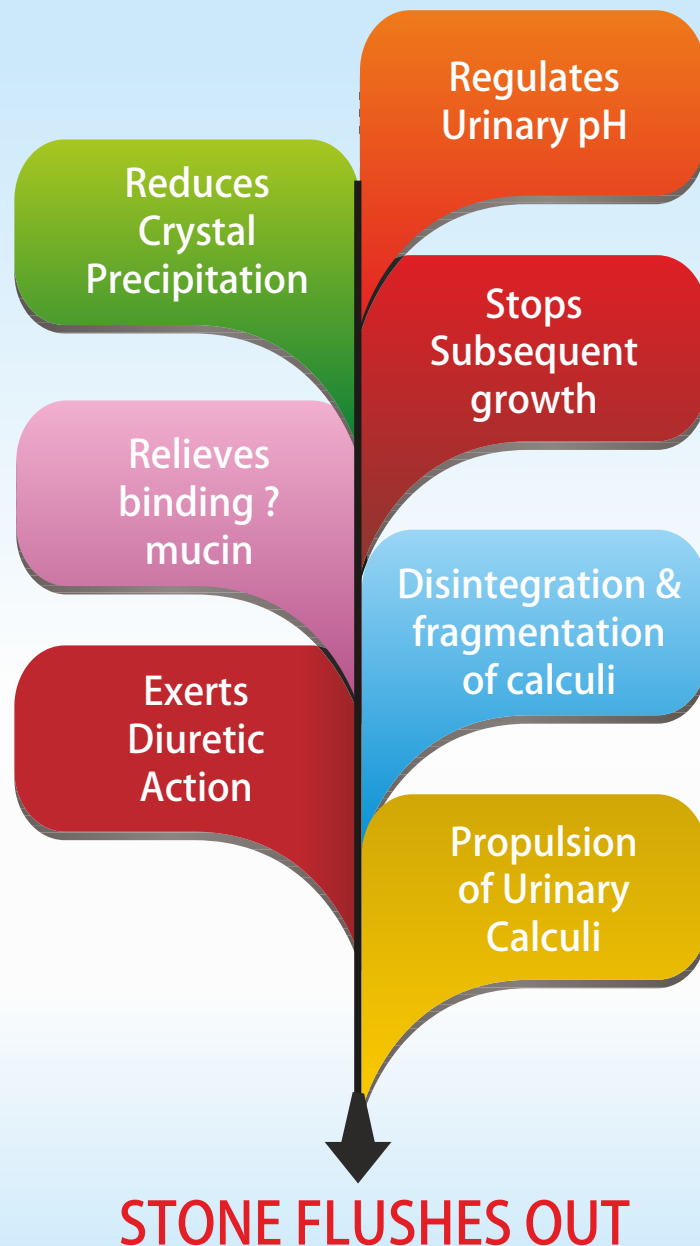




NEERI®

MULTI DIMENSIONAL ACTION OF NEERI IN URINARY STONES

Fragmentation and expulsion of Urinary Stones



NEERI THE BEST SOLUTION FOR URINARY STONES

Neeri, enriched with vital herbs and their active phyto-constituents, contributes to combat the urinary calculi by regulating urinary pH, reducing the precipitation of stone forming crystals, simultaneously preventing subsequent growth of calculi.

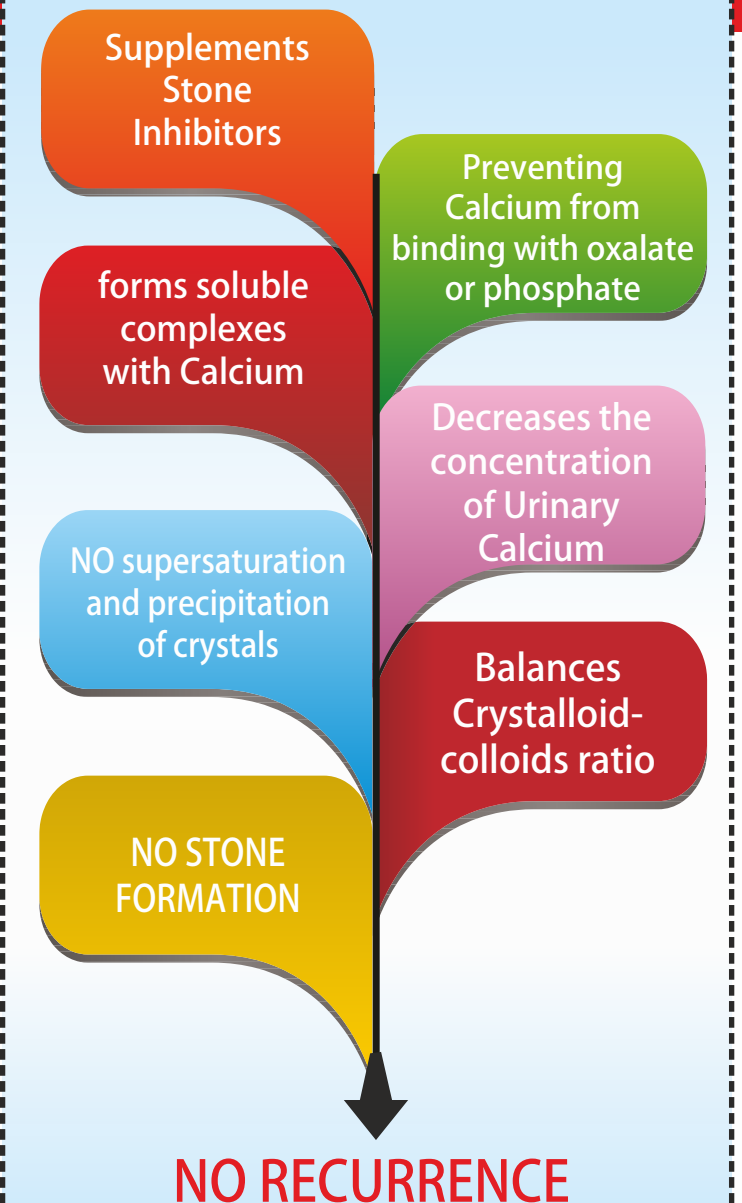
Neeri, by its Lithotriptic action, dissolves the binding mucin, which binds the stone particles together, thus ensures disintegration of calculi and crystals. Neeri with balanced diuretic action, increases the flow of urine so that the gravel, crystals and stones of small size are flushed out along with Urine.

NEERI - PROVIDES BIOMOLECULES TO PREVENT RECURRENCE

Neeri supplements stone inhibitors which prevents calcium from binding with oxalate or Phosphates. Neeri significantly increases excretion of stone inhibitor molecules which forms soluble complex with calcium which ultimately decreases the concentration of urinary calcium, this action inhibits the formation of kidney stones.

Neeri inhibits calculogenesis by regularising the mineral balance and balancing the crystalloid-colloid imbalance. It prevents the accumulation, deposition and supersaturation of calculogenic chemicals like oxalic acid and calcium hydroxyproline in urine.

Prevent Recurrence of Stones





NEERI®



ACTS AS ANTI-UROLITHIATIC AGENT.....helps disintegrate stones

- Inhibits formation of Calcium & Phosphate precipitates
- Reduces periodic precipitation of crystals
- Decreases Hyper-oxaluria

- Intervenes with endogenous Oxalate Metabolism
- Decreases Oxalate synthesizing enzymes
- Decreases Kidney Oxalate Level & prevents recurrence

The anti-calcifying potential of *Dolichos biflorus* (Kultha) and *Bergenia ligulata* (Pashanbhed) extracts was observed in-vitro by measuring the ability of extracts to inhibit formation of Calcium and Phosphate precipitates. It was observed that the extracts showed potent anti-calcifying activity.

% INHIBITION USING TOTAL WATER EXTRACT OF *Dolichos biflorus*

EXPT.	AMT. OF PRECIPITATE		% INHIBITION OF PRECIPITATE	
	PHOSPHATE	CALCIUM	PHOSPHATE	CALCIUM
Control Aqua	6.83 ± 0.54	7.56 ± 0.34	-	-
*Aq. Extract	5.77 ± 0.59	5.68 ± 0.16	15.43 ± 2.19	22.43 ± 1.15

(Phyto Res. 2001, 15, 351-355)

The aqueous extracts obtained from *Tribulus terrestris* (Gokshru) and *Bergenia ligulata* (Pashanbhed) were evaluated for anti-calcifying property. It was observed that these extracts inhibit the growth of urinary Calcium Hydrogen Phosphate dihydrate crystals by modifying the diffusion process and hence reduce periodic precipitation of crystals.

(Urol Res (2005) 33; 80-86)

IN-VITRO MINERALISATION STUDY OF NEERI

NEERI, UNDER AN IN-VITRO MINERALISATION STUDY, HAS BEEN FOUND TO CONTAIN BIO-MOLECULES WHICH ACT AS POTENT INHIBITOR OF NOT ONLY INITIAL MINERAL PHASE FORMATION BUT ALSO TO ITS SUBSEQUENT GROWTH. MOLECULAR WEIGHT OF THESE POTENT INHIBITORY BIO-MOLECULES IN NEERI WAS FURTHER FOUND TO BE LESS THAN 8000 DALTONS.

(JETHI R.K. et al. INTERNATIONAL SYMPOSIUM ON HUMAN STONES, TRACE MINERALS & FREE RADICALS UDAIPUR)



Hyper-oxaluria is an important contributory factor towards stone formation. *Tribulus terrestris* (Gokshru) prevents urinary lithiasis by intervening the oxalate metabolism. Studies confirm that Tribulus terrestris (Gokshru) lowers hyper-oxaluria due to its inhibitory action on GAO (Glycolate oxidase) and GAD (Glycolate dehydrogenase).

(J. of Ethnopharm. 44 (94): 61 -66)

The influence of *Crataeva nurvala* (Varuna) extract was studied in Calcium oxalate stone formation, in relation to oxalate metabolism in liver. The activities of major oxalate synthesizing enzymes in liver namely, Glycolate oxidase (GAO) and Lactate dehydrogenase (LDH), were significantly decreased with *Crataeva nurvala* extract treatment. The decrease in Liver GAO activity was seen with concomitant decrease in kidney oxalate level, which proves beneficial role of plant extract as a prophylactic measure in preventing stone recurrence.

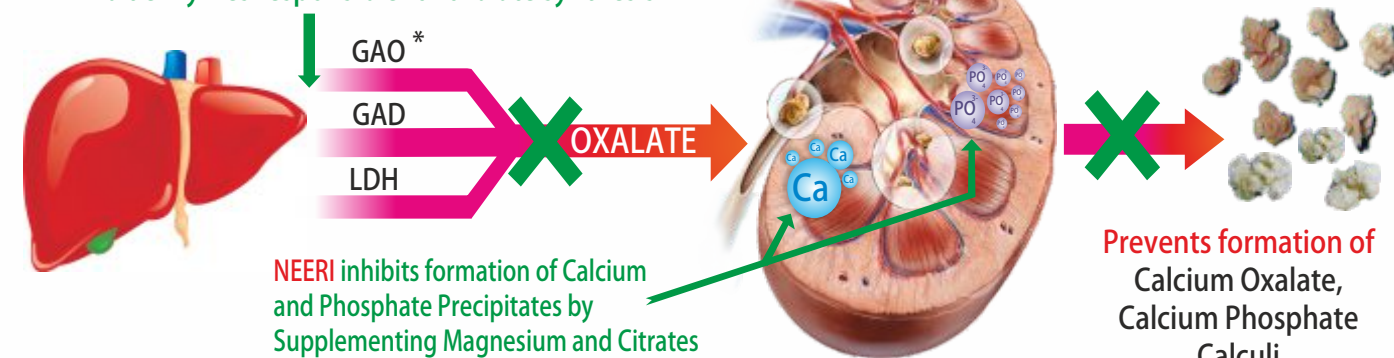
(Ind. J. Clin. Biochem., 1995 10(2) : 98-102)



NEERI INTERVENING WITH OXALATE METABOLISM PREVENTING STONE FORMATION

Tribulus terrestris, Crataeva nurvala in NEERI

Inhibit enzymes responsible for oxalate synthesis



*GAO-Glycolate Oxidase, GAD-Glycolate Dehydrogenase, LDH-Lactate Dehydrogenase



NEERI®



ACTS AS ANTI-UROLITHIATIC AGENT.....helps flushout stones

- Induces fragmentation of Urinary Stones
- Propulsion through balanced Diuresis
- Enhances Spontaneous passage of Urinary Stones

Dolichos biflorus (Kultha) in NEERI has been studied for its anti-calcifying activity. In-vitro effect of Kultha seeds on crystallization of calcium phosphate crystals shows marked anti-calcifying activity. This effect is mainly due to Dialysate and Dialysed fractions of *Dolichos biflorus* (Kultha) seeds. (Ind. J. Exp. Bio. 94 (32) p 889-891)

Herbs *Crataeva nurvala* (Varuna), *Dolichos biflorus* (Kultha) & *Tribulus terrestris* (Gokshru) do help in the spontaneous passage of calculi of moderate size. Drug Kultha induces fragmentation of phosphate calculi. Besides, these drugs in combination promptly relieve the symptoms of urinary disorders, act as potent diuretic & improve the tone of urinary bladder.

(Management of Mutrasmari ' by three ayurvedic drugs- Varuna, Kultha and Gokshru, CCRAS (1987))

Crataeva nurvala (Varuna) has also been reported to reduce the urinary excretion of calcium as the excretory rates of Sodium & Magnesium is increased. It is inferred that the drug alters the relative proportion of urinary Calcium, Magnesium, Sodium thereby, inhibiting formation of urinary stones.

(Jr. Res. Edu. Ind. Med. April-June 1991)

SIGNIFICANT DECREASE IN THE FORMATION OF STONES

The aqueous extracts of *Raphanus sativus* (Mooli) was tested for its anti-urolithiatic & diuretic activity. There was a significant decrease in the formation of stones in urinary bladder and also there was an increase in the urine output volume. (J. Ethno. Pharmacol 68(99) 335 - 358)



- Checks the Deposition of Cementing substance
- Maintains the pH of Urine
- Inhibits Calcium oxalate crystal formation

The anti-urolithiatic activity of *Tribulus terrestris* (Gokshru) aqueous extracts was evaluated. The findings are indicative of reduction in the deposition of cementing substance around the foreign body. Further, it was observed that there was a favourable change in pH of urine, urea level and decrease in Hyper-oxaluria. (Ind. J. Exp. Bio. 94; 548-552)

Bergenia ligulata (Pashanbhed) inhibited calcium oxalate (CaC_2O_4) crystal aggregation as well as crystal formation in the metastable solutions and exhibited antioxidant effect against 1,1-diphenyl-2-picrylhydrazyl (DPPH) free radical and lipid peroxidation in vitro. *Bergenia ligulata* caused diuresis in experimental subjects accompanied by a saluretic effect. There was also an increase in Mg^{2+} excretion in *Bergenia ligulata* group. Mg^{2+} is a well known inhibitor of calcium phosphate and CaC_2O_4 crystal growth. The crystallisation inhibitory potential of plant extract thus could be the result of increased Mg^{2+} content of the urine of treated group. These data indicate the antiurolithiatic activity in *Bergenia ligulata* to be mediated through CaC_2O_4 crystal inhibition, diuretic, hypermagnesuric and antioxidant effect.

(S. bashir, J. of Ethnopharmacology 122(2009) 106-116)

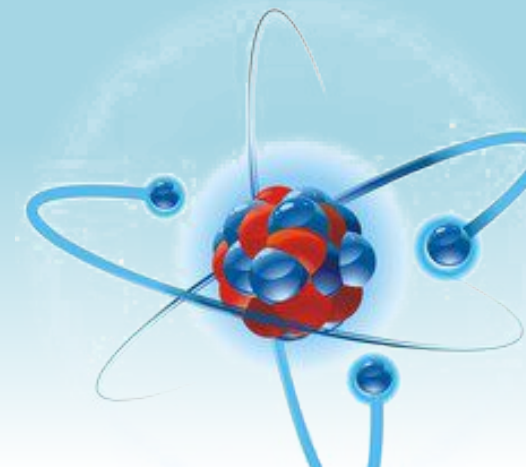


HELPS FLUSHOUT URINARY CALCULI



14 Patients of Vrikkasmari (Renal calculi) and 16 patients of Gavini-asmari (ureteric calculi) were treated with a herbo-mix combination containing *Bergenia ligulata* (Pashanbhed) and *Tribulus terrestris* (Gokshru) & others herbs. 28.57% patients of renal calculi and 75% patients of ureteric calculi passed their calculi completely and in other patients there was marked or partial expulsion of calculi or dislodgement of calculi or there was change in shapes, sizes and consistencies of calculi.

(Database of Medicinal Plants, CCRAS)



IN PROSTATIC ENLARGEMENT



- Improves tonicity of Urinary Bladder
- Reduces quantity of residual urine to normal
- Helps Subside Associated Symptoms

*Clinical Studies and principles of Ayurvedic Pharmacodynamics, highlight role of **Crataeva nurvala (Varuna)** and its benefits in management of urinary disorders, caused by enlarged prostate and relieving associated symptoms.*

TONES URINARY BLADDER

The clinical study of **Crataeva nurvala (Varuna)** revealed that the patients gradually improved and ultimately 60% of the patients showed complete symptomatic relief. Increased blood urea was reduced to normal in about 80% of the patients. The tone of the urinary bladder was improved and the quantity of residual urine was also reduced to normal. (Effects of varuna (C. nurvala) in Enlarged Prostate associated urinary disorders, C.C.R.A.S. (Ministry of Health and F.W.) Govt. of India, Delhi)

RELIEVES BPH SYMPTOMS

Clinical studies to evaluate the efficacy of **Crataeva nurvala (Varuna)** in urinary disorders were conducted on patients of enlarged prostate. The patients showed good response to the treatment. The reduced tone of the urinary bladder improved to normal. The over all effect was highly encouraging, since it provided relief to about 80 % of the patients. (Database of medicinal plants Vol. 2)

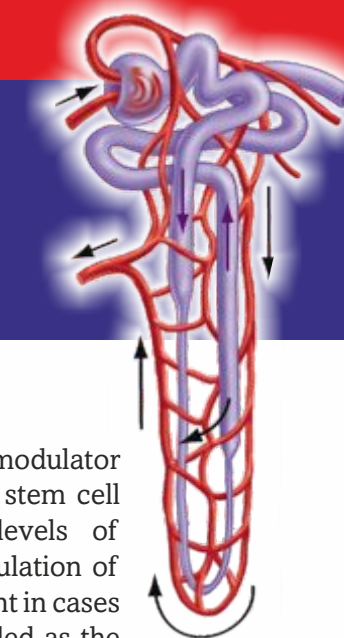
RELIEVES DRIBBLING

Crataeva nurvala (Varuna) has significant effects in prostatic hypertrophy with hypotonic bladder. Cytometric studies showed that the treatment with Varuna increased the bladder tone & expulsive force of urination, and the associated pain was relieved. The herb had marked effects on neurogenic bladder & Post-Prostatectomy atony of bladder.

(Fitoterapia 1990 vol. II, 1990)

ACTS AS AN IMMUNOMODULATOR

- Improves Body defence system
- Protects nephrons from damage
- Helps healthy functioning of Nephrons



PUNARNAVINE AS POTENT IMMUNOMODULATOR

Punarnavine from **Boerhavia diffusa (Punarnava)** has been found to be a potent immunomodulator as it stimulated immune system with enhanced stem cell of bone marrow proliferation, stem cell differentiation and antibody formation and suppressing LPS induced elevated levels of proinflammatory cytokines such as TNE- α , IL-1B and IL-6 in experimental subjects. Modulation of immune system by cytostatic agents is emerging as a major area in pharmacology experiment in cases where immune suppression is the result of therapy. Immune modulation has been regarded as the regulation of immune response stimulating them to prevent infectious disease or by suppressing them in desired conditioning. (Immunopharmacology and Immunotoxicity, 2009; 31 (3): 377-387)

Extract of **Moringa oliefera (Sigru)** substantially Enhance Cellular Response, Humoral Response, Nutrophill Index and Phagocytic activity in the Dose of 100 and 200mg/Kg Body Weight with different mechanisms like delayed type hypersensitivity, enhanced antibody titer, elevated TLC, and increased % of neutrophill adhesion. So **Moringa oliefera** shows Immunomodulatory activity. (Indian Journal of experimental Biology, Vol.50, apr.2012, PP.270-276)



Solanum nigrum (Makoi) was investigated under *in-vitro* studies for its protective role in gentamicin induced damage on experimental kidney cells. The extract significantly protected the kidney cells from toxic effects. The observed cytoprotection is due to increase in activity of free radical scavenging enzymes, counteracting action of free-radicals.

(Ind. J. Exp. Bio. Vol. 42, July 2004, p686-690)



Lupeol isolated from **Crataeva nurvala (Varuna)** when administered, induced a remarkable decrease in kidney oxalate level and also was effective in counteracting the free radical toxicity by bringing a significant decrease in peroxidative levels and an increase in antioxidant status. Decrease in the concentration of blood urea nitrogen & creatinine was also noticed, thus confirming the role of Varuna as Nephroprotective. (Ind. J. Exp. Bio. Vol. 42, July 2004, p686-690)



NEERI[®] Tablets

FOR SAFER, CORRECTIVE & PREVENTIVE MANAGEMENT IN RENAL CALCULI & UTIs

Indications

- ▶ • RENAL CALCULI
- ▶ • RECURRENT CALCULI
- ▶ • BURNING MICTURITION
- ▶ • URINARY TRACT INFECTIONS
- ▶ • RECURRENT UTIs
- ▶ • DYSURIA
- ▶ • BENIGN PROSTATIC HYPERPLASIA (BPH)

Dosage

In Renal Calculi & UTI's

Tablets : Adults : 2 tablets TDS
Children (6-12yrs.) : 1 tablet BD
till the stone passes out &
for 1 month in UTI's

In BPH

Tablets : 2 tablets BD
or as directed by the Physician.

A higher dosage may be recommended for chronic & severe conditions.

Exclusive Benefits

- ✓ Relieves symptoms of UTI within few minutes
- ✓ Soothes Urinary Tract and regulates Urinary pH
- ✓ A Natural Lithotriptic acting Multi-dimensionally
- ✓ Helps prevent Recurrence in UTI & Urinary Stones
- ✓ Acts as Nephroprotective
- ✓ Reduces complications in Prostatic Enlargement

