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Letter to the Editor

Prevention and current management of urinary stones

Dear Sir,

Urinary tract stone disease is a common health problem. It is so common in this region that northern India is designated as the stone belt of India.[1] Exact cause is not known, but probable reasons could be the mountainous areas; some factor in water may cause this. Although all age groups are affected, the disease is more prevalent in people aged 20–40 years, with slight male preponderance. This age group is the most productive period of life. As, most often, males are the sole breadwinners of the family, the direct and indirect costs involved to a family are significant.

There are many myths prevalent in the society about the management of urinary stone disease. There are many diet charts and formulations available in the market which are difficult to follow and are of doubtful benefit with little scientific basis. The current medical literature has data that suggest lifestyle changes and dietary modification can reduce the incidence of urinary stone disease.

Liberal water intake up to 3 L, avoidance of extra salt, preference for citrus fruit, and use of unprocessed wheat flour in day-to-day life not only decrease the incidence of urinary stone but also reduce the risk of many cardiac diseases.

While liberal water intake up to 3 L makes urine dilute which prevents precipitation of stone crystals and growth of stones, citrus fruit prevents aggregation and formation of stone crystals. Consumption of extra salt causes excretion of more calcium in urine and causes stone formation. Unprocessed wheat flour including barn (husk, choker) binds with calcium in the gut and prevents its absorption from the gut and hence prevents stone formation.[2]

Urine routine/microscopy, kidney function test, ultrasound, noncontrast computed tomography (NCCT), kidney ureter bladder (KUB) X-ray study, and contrast enhanced computed tomography CT- IVP are usual investigation methods carried out for proper diagnosis and planning of treatment.

Stones up to 4–5 mm do not require any treatment; they can be managed conservatively by increasing fluid intake, and stones of this size range pass as such with flow of urine. Stones of size 6–8 mm pass with the help of medication. When stones of this size get stuck in the lower ureter, we treat the patient with alpha blockers and some other medicines that dilate the ureter and allow early passage of stone. As the stone size increases, the chances of stones passing spontaneously decreases and the need for surgical management increases.

The previous decade has seen tremendous revolution in the management of urinary stone disease. While extracorporeal shockwave lithotripsy (ESWL) can remove stones up to 10 mm from the kidney and upper ureter (Figs. 1 and 2),[3] a semirigid ureterorenoscope (URS) can easily remove stones from the middle and lower ureter on day-care basis. A flexible URS can remove stones of

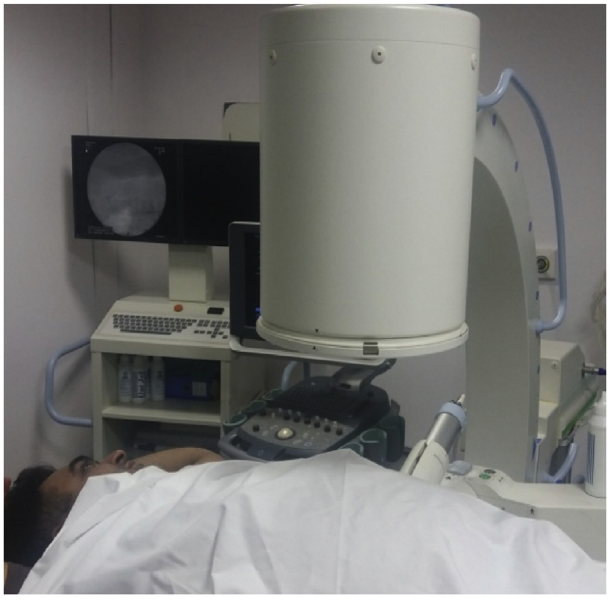

Fig. 1. Extracorporeal shockwave lithotripsy in progress.

Fig. 2. Localization of a stone.

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10–15 mm in size from the upper ureter and renal pelvis.[4] Use of laser for fragmentation of stones has made this procedure more effective with lesser complications.

Large renal stones are usually treated with percutaneous nephrolithotomy (PCNL), and this usually needs two days of hospitalization. Miniaturization of the instrument in recent past has brought mini- and micro-PCNL which is more patient-friendly leading to lesser morbidity and early recovery.

Urinary bladder stone are managed endoscopically on day-care basis. Pure uric acid stones can be managed by alkalization of urine using baking soda and some other alkalizing agents.

Patients with recurrent urinary calculi or who are of younger age at presentation need evaluation for metabolic causes of stone formation.

Urinary stone disease in the present day scenario is a common health problem and can be managed with easy and less morbid technique, but it is available in limited places. Incidence of recurrent stones can be reduced by dietary modification and lifestyle change.

Conflict of interest

None.

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