Images In Medicine

Ureteroscopic Management of Renal Calculi In a Pelvic Kidney

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A fifty-four year old man presented to the emergency room with lower abdominal pain and the inability to urinate. He denied any fevers, nausea or vomiting and his physical exam was significant for suprapubic tenderness, a palpable bladder, no costovertebral angle tenderness and a mass palpated at the penile urethra. Non-contrast computed tomography revealed a right pelvic kidney with three 1 cm renal stones and a single 0.5cm obstructing mid urethral stone with a distended bladder. The patient passed his urethral stone soon after returning from radiology and voided spontaneously thereafter. His three remaining nonobstructing renal calculi were treated surgically as an outpatient.

According to autopsy series, the incidence of renal ectopia ranges from 1 in 500 to 1 in 1200 patients. The incidence of stones in patients with pelvic kidneys is known to be higher than the general population. The ectopic position and altered anatomy can often present a challenge to urologists managing patients with symptomatic nephrolithiasis.

Percutaneous nephrolithotomy (PCNL) has been the mainstay of treatment for high stone burden nephrolithiasis with the highest success rate rendering the patient stone free. However, given the altered anatomy in a pelvic kidney, one would have to consider a laparoscopic approach in order to perform a PCNL or to consider ureteroscopy. In this case we opted to perform ureteroscopy. Despite the significant stone burden in his pelvic kidney the shorter ureter made ureteroscopy much less challenging. Flexible ureteroscopy with laser lithotripsy and stone extraction successfully rendered the patient stone free.

References

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The authors have no financial interests to disclose.

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