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CASE REPORT

Iatrogenic Ureteric Rosary (Stone Street)!

SINGH I, MITTAL G S

ABSTRACT

We report a case of "iatrogenic ureteric rosary" or stone street! following an open pyelolithotomy for a giant staghorn stone which was operated elsewhere and was successfully managed by us with renal salvage and timely ureterolithotomy with stenting. The present case was reported to highlight an uncommon and rarely reported challenging problem of complex multiple (seventeen) secondary ureteric calculi obstructing the renal unit.

Introduction

Urolithiasis is a common occurrence in India. Despite recent advances and improvements in the understanding of urolithiasis and it's prophylaxis (medical management) surgical (endourological) treatment still retains a dominant role. In spite of the availability of minimally invasive multi-modal modalities to treat renal and or ureteric calculi like shock wave lithotripsy, uretero-renoscopy/laser lithoclasty, retroperitoneoscopic ureterolithotomy and antegrade percutaneous nephrolithotomy to manage urolithiasis, open surgery still has an important role to play in the successful management of selected cases of renal/ureteric calculi. This is adequately demonstrated by the present report.

Case Report

A 30-year-old man presented with a one-week history of fever, oliguria and flank pain. Interrogation and a referral note revealed that he was a case of a giant left renal staghorn calculus with multiple calyceal stones [Table/fig 1](fig-1a). Operative note reveled that he had undergone a difficult open left pyelolithotomy elsewhere in which the surgeon had managed to remove only sixty percent of the stone bulk and the surgery was terminated due to severe intra-operative renal bleeding with a nephrostomy placed in situ. At

presentation the nephrostomy had slipped out and he demonstrated pallor, fever, tacchycardia and signs of sepsis. His hemoglobin and blood urea were 7gms%, and 80 mgs/dl. The urine output was less than one liter/24hrs and an emergency ultrasound demonstrated significant left hydro-ureteroneprosis with calculi. An X-ray KUB demonstrated a rosary like "stone street" in the line of renal pelvis and ureter from the level of L_1-L_4 [Table/Fig 1](fig-1b). He underwent an ultrasound guided percutaneous nephrostomy (drained 350 ml of purulent blood stained urine) under local anesthesia the following day, after correction of hemoglobin and dyselectrolytremia. Two days later after due

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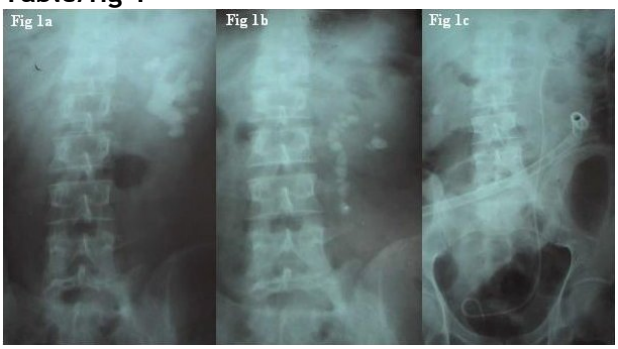
Table/fig 1



Panel images showing the x-ray KUB of the patient, 1(a)-pre-operative picture showing the giant staghorn with multiple calyceal extensions; 1(b) showing the iatrogenic ureteric stone street and rosary and ; 1(c) showing the end result of total stone clearance with a JJ stent in-situ.

preparation (aseptic precautions, adequate hydration, and IV Inj Ciprofloxacin 200mgs/12hrs and IM Inj Amikacin 500mgs/12hrs) he underwent an open ureterolithotomy in which seventeen ureteric calculi were gently removed through a single ureterotomy by retrograde milking of the dilated ureter and a double J ureteric stent was placed in an antegrade manner. Check x-ray KUB revealed total clearance of the calculi [Table/fig 1] (fig 1c). He was discharged uneventfully two weeks later.

DISCUSSION

"Steinstrasse" or street of stone is a German word coined to denote the phenomenon of accumulation of multiple stone fragments and gravel within the ureter following shockwave lithotripsy of renal calculi[1]. In the present case it is probable that after the surgeon removed the large pelvic staghorn calculus the smaller calyceal calculi became mobile and later slipped in to the ureter producing an "Iatrogenic ureteric rosary" and stone street! , that jeopardized the left renal unit resulting in obstructive pyonephrosis and oliguria.

Other minimally invasive options to manage this challenging problem include shockwave lithotripsy, flexible ureteroscopy with holmium laser lithoclasty, and multimodal endo-urology could have been attempted but these were not available at our center[2],[3]. Ballistic lithotripsy and ureteroscopy were not considered due to the high risk of ureteric perforation, as the dilated ureter was full of multiplelarge impacted calculi. Laparoscopic ureterolithotomy was not considered, as this was a complex case involving re-operative surgery, in which laparoscopy or retroperitoneoscopy is a relative contraindication and is safer to handle with open surgery[4].

The present case was reported to highlight the importance of timely endourological intervention and stenting while handling such renal units with a complicated massive stone burden. Awareness of this possibility and urgent timely appropriate urological and surgical intervention saved the renal unit and maximized his renal function.

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