

CASE REPORTS

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A dual neglected double J stent: a rare case report

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Abstract

Background: A neglected ureteric stent with encrustations is an uneasy problem for the patient and treating urologist. We report a rare case of single urinary system retained dual ureteric stents that was complicated by extensive encrustation.

Case presentation: A 36-year male patient referred from prison hospital with intermittent left loin pain and burning micturition. Pelvi-abdominal ultrasonography, plain X-ray and non-contrast computed tomography revealed neglected dual double J stents on the left side with large renal and urinary bladder stone burden and heavy ureteral encrustation. Staged endoscopic management was planned. At first session, both bladder and renal calculus was fragmented and removed by mechanical cystolithotripsy and percutaneous nephrolithotomy, respectively. After one week; the lower, middle and upper ureteral encrustations were cleared carefully using Holmium YAG Laser lithotripsy through 7 Fr. distal tip semi-rigid ureteroscopy. Both neglected double J were removed successfully and the patient was asymptomatic.

Conclusions: Neglected ureteral stents are complicated by massive encrustation and need combined staged endoscopic procedures. Patient and health service provider should be learned for importance of stent removal.

Keywords: Neglected ureteric stent, Encrustation, Percutaneous nephrolithotomy, Ureteroscopy, Cystolithotripsy

1 Background

Double J (DJ) stents are normally utilized in many urologic practices. A neglected DJ stent with encrustations is an uneasy problem for the patient and treating urologist. The common reasons behind a neglected DJ can be attributed to inadequate counseling by the treating doctor and poor compliance on part of the patient and his or her relative [1]. In our scenario, we report a rare case of retained dual DJ for 3 years that was complicated by extensive encrustation and large renal and urinary bladder stone burden on both DJs due to patient imprisonment.



Fig. 1 Plain X ray reveals dual double J stents on the left urinary system covered with a layer of encrustation

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Fig. 2 Spiral CT scan reveals left renal upper pole and urinary bladder stone on both double J stents



Fig. 3 Plain X-ray demonstrated clearance of renal and urinary bladder encrustations with left nephrostomy tube inserted



Fig. 4 The final plain X-ray demonstrated new left double J

2 Case presentation

A 36-year male patient referred to our department from prison hospital with intermittent left loin pain and burning micturition. Patient underwent pelvi-abdominal ultrasonography, plain X-ray kidney–ureter–bladder (KUB) (Fig. 1) and non-contrast computed tomography (CT) (Fig. 2). These imaging revealed neglected dual double J stents on the left side with upper pole stone burden

2.5 cm, heavy ureteral encrustation and large bladder stone about 2 cm. Serum creatinine was 1.1 mg/dl. The first double J was inserted after ureteroscopic stone removal since 3 years. His physician failed to remove this double J two years ago and put another one to avoid any postoperative fever. The patient was arrested and imprisoned. Patient also had past history of umbilical hernia repair with mesh. Written informed consent was obtained from the patient for publication.

2.1 Operative procedure

2.1.1 First session

Preoperative antibiotics were given according to urine culture sensitivity. Under general anesthesia, cystoscopy was done and the bladder calculus was fragmented by mechanical cystolithotripsy and the gravels extracted using Ellik evacuator. Then, 0.035 inch nitinol wire with hydrophilic tip (Sensor™, Boston Scientific, COSTA RICA) was inserted in left ureteric orifice to the kidney. A 6 French straight ureteric catheter was inserted. Prone percutaneous nephrolithotomy (PCNL) with upper pole puncture was done. Renal stone was fragmented by pneumatic lithoclast and removed. Nephrostomy tube was inserted (Fig. 3).

2.1.2 Second session

This session was planned to manage the distal, middle and proximal ureteric encrustations one week after the first session. A 0.035 inch sensor™ guidewire was smoothly placed to the kidney. The lower, middle and upper ureteral stones and encrustations were cleared carefully using Holmium YAG Laser lithotripsy through 43 cm length KARL STORZ Semi-rigid ureteroscopy with 7 Fr., distal tip. Both neglected double J were removed successfully and a new 5F /26 cm length double J inserted for prevention of ureteral obstruction or infection complications following our ureteroscopic procedure and to better control postoperative pain (Fig. 4). After the procedure, the patient was asymptomatic. The new double J removed easily endoscopically after 2 weeks.

3 Discussion

Double J stents are among the commonly used tools in urology in many procedures since its first appearance in 1967 [2]. Stent discomfort, migration, encrustation, stone formation and renal failure are complications of a forgotten double J stent [3].

A neglected stent may be challenging and complex at removal time and the management depends on the patients' medical status, encrustations severity and size

and location of stone [4]. In our case, we needed two sessions for safe removal of both double J using modern endoscopic and lithotripsy techniques. Neglected ureteral stents, especially those longer than one year, are massively encrusted and may need combined staged endoscopic procedures. Shock wave lithotripsy, ureteroscopic laser lithotripsy, and percutaneous nephrolithotomy are the most frequently used techniques [5].

To our knowledge, this study reports the first case of a dual forgotten stents in single system reported in the literature. The patient's neglect of his double J may have been against his will due to prison circumstances. Numerous measures are recommended to prevent double J neglect. Patients, his relatives and health service provider should be reminded of the presence of a double J stent that could lead to problems if left inside for more than 12 weeks. Moreover, a computerized registry of stent placement may be applied to alert the urologist when the stent must be removed [6].

4 Conclusions

Neglected ureteral stents are massively encrusted and need combined staged endoscopic procedures. Patient and health service provider should be learned for importance of stent removal.

Abbreviations

DJ: Double J; CT: Computed tomography; KUB: Kidney–ureter–bladder; PCNL: Percutaneous nephrolithotomy.

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Author contributions

FZ: wrote the manuscript and performed the operation. AE: collect the data and managed the patient's perioperative course. AG: revise the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials

All data generated or analyzed during this study are included in this published article.

Declarations

Ethics approval and consent to participate

All procedures performed in this study were in accordance with the ethical standards of the Institution and/or National Research Committee and with the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

Consent for publication

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

Competing interests

The authors declare that they have no competing interests.

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