Forgotten double J stent in the urinary bladder with calculus formation

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CASE REPORT

A 40-year-old male patient came with complaints of frequency of micturition, dysuria and intermittency for six months. He underwent left uretero-reconstructive lithotripsy one year back for one cm calculus in the lower ureter. His general physical examination was unremarkable excepting for mild suprapubic pain. On investigation his complete urine examination showed many RBCs but rest of the urine examination was unremarkable. His urine culture was sterile. Plain radiograph of the abdomen revealed a radio-opaque shadow encasing a retained DJ stent which slipped into the bladder (Figure 1). The patient underwent open cystolithotomy and removal of the calculus along with the stent (Figure 2). He is asymptomatic and doing well on follow up.

DISCUSSION

Since its description by Finney et al. Double J ureteral stents are widely used in urological practice [1]. These stents are used to establish or improve drainage in cases of extrinsic or intrinsic obstruction of urinary passage. They are also placed after iatrogenic injuries to the ureter and prophactically in complex abdominal surgeries [2]. Due to technological improvements in stent design and stent biomaterials patient discomfort has been greatly minimised. As a result it is a possibility that the patient and the treating physician may forget about their presence. These forgotten ureteral stents can lead various complications like stent migration, stent occlusion, breakage, encrustation and stone formation [3–6].

Stent migration can occur in the upward or downward direction. Most of the stents have a memory at both ends which help in retention. Migration can occur due to ureteral peristalsis, improper placement or improper design of the stent [7]. In our case, the stent completely migrated into the bladder and eventually turned into a calculus. Encrustation of retained stents associated with large stone burden can result in serious problems like recurrent urinary tract infection, hematuria, obstruction and renal failure [8]. The encrustation is a result of organic components in the urine crystallizing on the bacterial bio film formed on the stent. The adherent bacteria hydrolyse urea to produce ammonia. The elevated urinary pH favours the precipitation of magnesium and calcium in the form of struvite and hydroxyapatite [9, 10].

The literature is abundant with reports of forgotten DJ stents and their complications [11–14]. The reason for the forgotten ureteral stents is due to failure on the part of treating surgeon to counsel the patient. In our case, the patient underwent left ureterorenoscopic lithotripsy elsewhere and as per his history the treating doctor has not counselled about the presence of stent and its removal. As a result, the stent migrated into the bladder and eventually turned into calculus. Various procedures have been described in the literature for removal of these stents [11–14]. The type of procedure depends upon the site of stent and degree of associated stone burden.

The treating physician should have a thorough knowledge for appropriate indications for stent placement and should be highly selective in putting the stents. All patients should be counselled about the long-term complications of indwelling stents and the
CONCLUSION

Forgotten DJ stents and their complications are quite commonly seen in urological practice. Prevention is the best form of treatment to avoid this complication.


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Guarantor
The corresponding author is the guarantor of submission.

Conflict of Interest
Authors declare no conflict of interest.

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REFERENCES