Endourological Management of a Forgotten Double J Stent

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Research Article

Abstract: The Double-J (DBJ) stent has become one of the most commonly used treatment modalities for internal drainage after endourological procedures, since 1967 when it was first used by Zimskind and colleague. It is an effective method for post-operative management of ureteral calculi, ureteral stricture, congenital anomaly, retroperitoneal tumor, or iatrogenic ureteral injury. However, the complications both short and long term, of an indwelling DBJ should not be ruled out. Short term complications include haematuria, dysuria, back pain and retrograde migration of the stent itself. Amongst the long term complications – breakage, encrustations, stone formation or occlusion of the stent itself may occur.

Keywords: Double J stent, Calculi, encrustation, flexible cystoscopy, cystolithotripsy, Flexible ureteroscopy.

Introduction

We present the case of a 65 year old lady who presented with history of pain in her left flank and fever of 2 weeks duration. Detailed history revealed that she had undergone an endourological procedure 2 years back and was unaware of stent being placed in both kidneys. However she was also lost for follow up with her previous doctor. In view of incomplete information regarding the previous surgery, a complete work-up in the form of blood investigations (complete haemogram), renal function tests, ultrasound examination and a CT scan of abdomen and pelvis was carried out. The CT scan revealed a retained and encrusted DBJ stent with calcification (Figure 1). Her urine culture revealed growth of E-Coli and pseudomonas aeruginosa. She was started with appropriate antibiotics and then operated.She underwent cystoscopy with cystolithotripsy, ureteroscopy and laser lithotripsy. Flexible ureteroscopy was also used and the complete stent was removed in a single setting (Figure 2). However we had to put a new stent as manipulation of the ureter was performed and the procedure lasted for 3 hours. The patient had an uneventful recovery and after 3 weeks, without fail, the new DBJ stent was removed. IVP performed after 6 weeks revealed a normal functioning kidney with a normal draining ureter.

Figure 1: CT topograph showing the Double J stent in situ

Figure 2: The retained and encrusted Double J stent removed from the patient after 2 years.

Discussion

The forgotten ureteral DBJ stent is a most common occurrence and usually results in encrustations or stone formations. This is a challenging task for the treating urologist. Though Double J stent has been refined for improved durability in recent years, encrustation still remains one of the most common and an important side effect. Encrustations occur mostly when the DBJ stent is forgotten and ends up being retained for a prolonged duration. In the study by El-Fiqih *et al*, the encrustation rate was reported at 9.2% when the DBJ stent was removed within 6 weeks [1]. If the DBJ stent was retained for 12 weeks or more, 76.3% of the patients developed encrustation. A review of the components and risk factors of encrustation show that calcium oxalate is the most common constituent, occurring especially in the monohydrate form [2]. Amongst the different types of materials used in the manufacture of the Double J stents, those made of silicone have been found to be associated with a significantly less incidence of encrustation than the polyurethane stents [3,4]. This still does not prevent the problem of encrustation in a retained Double J stent of

any material. Other risk factors including history of lithogenicity and urinary tract infection which contribute to the encrustation of the Double J stents also need to be looked into [4].

References

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