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CASE REPORT

ENDOUROLOGICAL MANAGEMENT OF FORGOTTEN DOUBLE J STENTS: CASE SERIES

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ABSTRACT

Putting ureteral stents are an integral part of urological practice. However, stents that fragment or are forgotten for a long time pose a management challenge and also legal dilemma. Our series consists of a review of five patients with forgotten double J stents. All these cases were managed at Kathmandu Model Hospital and all the forgotten stents were retrieved endourologically. Management of such complicated ureteral stents requires a multimodal therapeutic approach incorporating the latest ESWL and endourological techniques. Proper counseling to the patient with reference from post-operative KUB X-ray may prevent this urological tragedy.

INTRODUCTION

Ureteral stents are widely used in urological practice. They are mainly indicated after any ureteral surgery and for managing ureteral obstruction due to intrinsic or extrinsic causes like stones, strictures, ureteropelvic junction obstruction, retroperitoneal fibrosis, malignancies, and congenital anomalies.[1,2] They are also placed after iatrogenic injuries to the ureter and before any complex abdominal procedure. Keeping double J stent for longer period of time might increase the likelihood of some of the complications like stent encrustation, stent fragmentation, stone formation and recurrent urinary tract infection.[1] Retention of ureteral stents, often due to poor compliance of the patient is not uncommonly seen.

Case 1

A 25 years young lady presented with complain of passage of blood in urine since one week and had on and off flank pain with burning micturition since

last few years. She had undergone right sided renal surgery for nephrolithiasis 10 years back but the documents were not available. Routine blood investigations were done along with x ray KUB,USG abdomen and pelvis which showed forgotten DJ stent in right side with heavy encrustations on both ends. For confirmation of diagnosis and mode of management CT-IVU was done and was decided for management with cystolithotripsy and PCNL.

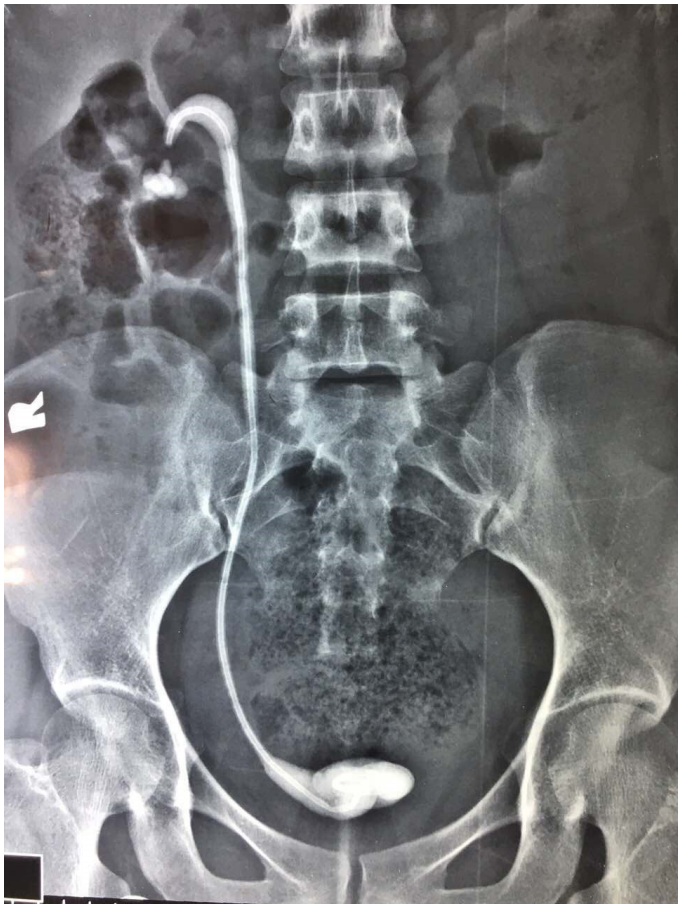

Figure 1. X-ray KUB showing heavy encrustations on both ends of DJ stent.

Case 2

A 24 years male presented with complaint of right flank pain on and off since last 6 months. He had history of URSL done 7 years back in Middle-East. X-ray KUB, USG abdomen and pelvis and CT KUB suggested forgotten right sided DJ stent with encrustations in lower end. This patient was managed by cystolithotripsy with evacuation of calculi and PCNL in a single sitting.

Case 3

A 43 years female presented with burning micturition

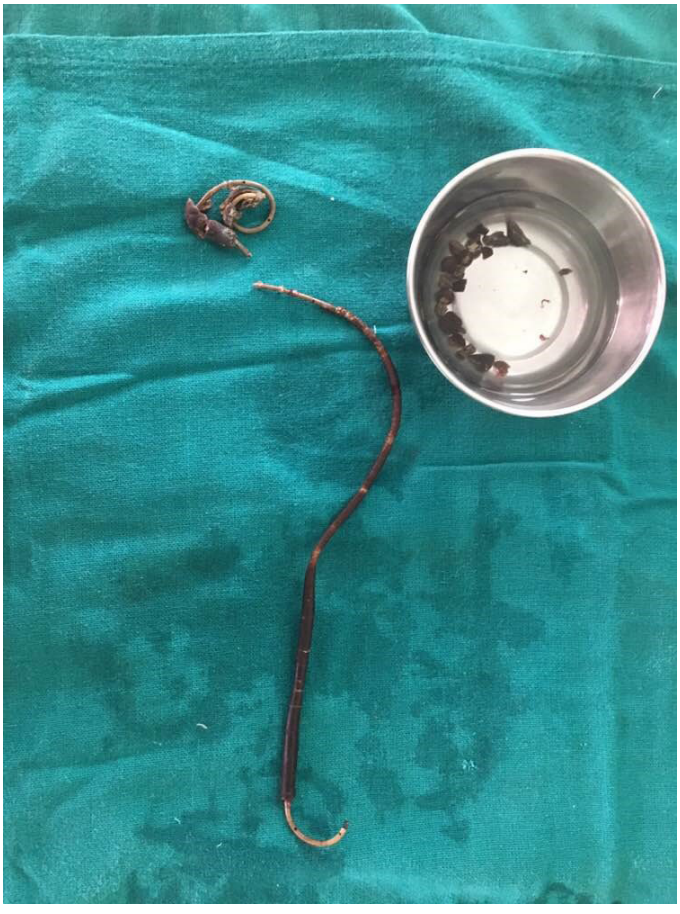

Figure 2. Stent with encrustations along whole length and a fragmented segment with stone formation, bowl contains stone fragments after PCNL of proximal end.

for few days and acute retention of urine. During Foleys catheterization, foreign body popping out of urethra noticed, which was then pushed inside the bladder and Foleys was placed. X-Ray KUB showed fragmented DJ stents with one fragment inside the bladder and another fragment in the upper end. She had undergone some open urological procedures for renal calculi 8 years back. The fragmented stents were retrieved by cystoscopy and PCNL on same settings.

Case 4

A 33 years male from eastern part of Nepal presented with complains of pain in right flank on and off, burning micturition since last7-10 days. He had H/O attempted PCNL done 5 years back in one of tertiary centre of Nepal. X-Ray KUB, ultrasonogram and CT KUB confirmed Right renal stone with fragmented forgotten DJ stent. Cystoscopic removal of lower fragment along with PCNL was done to clear the

The site of encrustation, associated stone burden and the function of the affected kidney often dictate the method of access and treatment.[1]

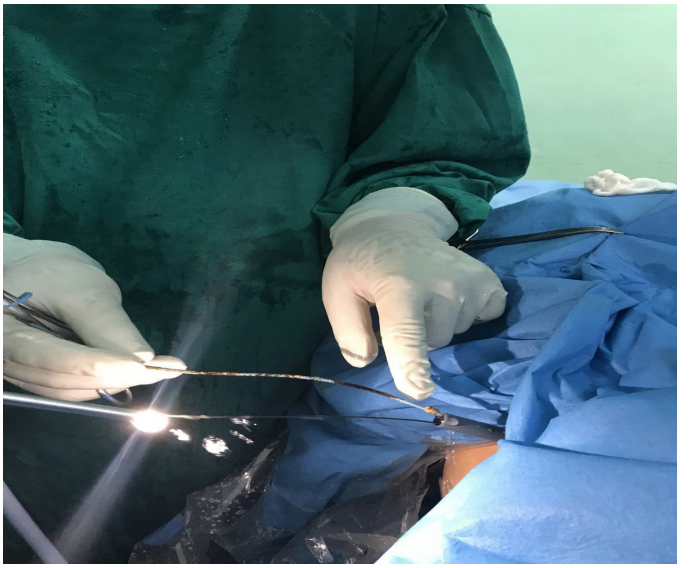

Figure 3. Successful retrieval of stent along with encrustations seen in distal end of stent with the help of PCNL.

Figure 4. X-Ray KUB showing fragmented stent in bladder leading to urinary retention

Case 5

A 38 years male presented with right flank pain on and off since last 1 month. He had history of EWSL done 5 years back in middle-east for upper ureteric stone. At least 3 attempts of ESWL was performed but patient was unaware of stent in his body. X-Ray KUB and CT KUB revealed forgotten DJ stent with fragmentation. Patient was finally managed with cystoscopic removal of distal fragment and PCNL for proximal fragment.

Routine blood investigations were done along with x ray KUB,USG abdomen and pelvis which showed forgotten DJ stent in right side with heavy encrustations on both ends. For confirmation of diagnosis and mode of management CT-IVU was done and was decided for management with cystolithotripsy and PCNL.

DISCUSSION

Forgotten ureteral stents are observed in urologic practice because of poor compliance of the patient or failure of the physician to adequately counsel the patient. These forgotten stents can produce considerable morbidity and mortality, due to extensive encrustation with significant stone burden, knot formation, upward migration and fragmentation.

In developing countries, like our economic burden for health makes people feel once they get rid of disease, they forgot stents kept inside and are lost to regular follow up. The deposition of encrusted material on retained ureteral stents can occur in both infected and sterile urine.

The mechanism of encrustation in infected urine is a result of organic components in the urine crystallizing out onto the surface of biomaterial and becoming incorporated into a bacterial biofilm layer.[1,7,9] Fragmentation is another important complication of the forgotten stents. Retained ureteral stents with encrustation is a challenging problem for endourologists.

These patients very often require multiple endourological approaches because of encrustations and the associated stone burden that may involve bladder, ureter and kidney.[1,2] This may require single or multiple endourological sessions[8] or rarely open surgical removal of the encrusted stents.[1-3] Common indications for stent placement include the relief or prevention of obstruction, especially prior to Shockwave lithotripsy (SWL) and after ureteroscopy. Although most stents are placed in order to prevent complications, their use is associated with a number of complications whenever stents are kept for prolonged duration. Complications can be minor such as hematuria, dysuria, frequency, low backache, supra pubic pain. Major complications can be like

minimal complications, extracorporeal shock wave lithotripsy (SWL) is the initial treatment with stents with minimal encrustation. However, in our series, no patient required SWL because of extensive stone burden in majority of cases. In most of the cases we need combined modalities for successful retrieval of stent,[8] the best treatment that remains is prevention of this complication.

Certain precautions and guidelines as mentioned below should be ensured.[5] Patients and attendant should be well informed about the timely removal. Patients details like age, name, telephone no. and address should be registered in the hospital, so that patient can be timely informed for DJ stent removal. Postoperative X-ray KUB should be routinely done in each patients and handed over to patients at the time of discharge. So that he/ she remember about the stent in situ and comeback for timely removal.

CONCLUSION

Encrustation and stone formation in forgotten stents often lead to life threatening complications and pose a challenging management task for the treating surgeon. The use of various combinations of endourological techniques can achieve effective stent and stone treatment after a single anesthesia session with minimal morbidity and short hospital stay. Imaging and assessment of the degree of stone burden is important, before making any attempt to remove these stents. Maintenance of efficient computer registry under direct supervision of treating surgeon and proper patient counseling is required to prevent this complication.

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