

Case Report

Vesical calculus on the end of forgotten DJ stent: a case report

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ABSTRACT

Double J stent provides a convenient way of draining upper urinary tract. However it is associated with many complications of which forgotten stent and associated comorbidity is an important factor. Careful monitoring of patients could exclude any possibility of a stent being forgotten at all. We present a case report of such complication of forgotten stent with formation of stone at the vesical end of DJ stent.

Key words: Forgotten stent, Vesical calculus, Encrustations

INTRODUCTION

DJ Stents are placed in the ureter after open/endoscopic surgery in order to maintain patency of the ureter and promote healing. Various complications including migration, fragmentation and stone formation still occur especially if the stent is left in situ for long time.^{1,2} This necessitates the need to remove stents as early as possible. Counseling before and after the procedure regarding DJ stent placement and its removal plays a vital role to avoid the retained/forgotten stent and in turn avoiding the morbidity associated with the stent.

CASE REPORT

A 50 years old female presents in OPD with history of Fever with rigors and chills, Pain lower abdomen for 7 days, increased frequency of micturation and burning micturation for 15 days. Patient gives history of similar complaints on and off for 5 years. Patient had past H/O Pyelolithotomy 10 years back which was uneventful according to patient. On local examination patient had tenderness in hypogastric region. Rest of Abdominal Examination was normal. On Routine investigations all investigations were within normal limits except urine

complete showed numerous pus cells and 4+ albumin. Urine culture showed growth of Klebsella. On USG abdomen right kidney showed Grade 3-4 hydronephrosis Left kidney showed grade 4 hydronephrosis. A linear stent with curved upper end was seen in left pelvis (DJ Stent) Urinary bladder showed echo reflective cellular density 44*25 mm around the lower end of stent.



Figure 1: Abdominal x ray showing DJ stent with stone at lower end.

On abdominal x-ray stent was seen on left pelvis with lower end showing echogenic density (Figure 1). On asking patient, patient was unaware of any stent placed in

previous surgery. Patient was planned for cyst lithotomy. On opening bladder stone was seen in bladder at lower end of stent.

Stent removed by gentle traction at lower end (Figure 2). Bladder closed in layers. Postoperative period was uneventful. Drain removed on 3rd postoperative day. Suture removed on 10th day. Patient symptoms relieved. Urine culture became negative.



Figure 2: Retrieved DJ stent with intact stone at lower end.

DISCUSSION

The double J stent provides a convenient means of drainage for the upper urinary tract. It is a common procedure in daily urologic practice. The indications of double J catheter placement include the relief of ureteral obstruction secondary to diverse etiologies, accommodating adequate postoperative drainage, and preventing ureteral injuries during surgical procedures. During the last decade significant improvements have been made in stent design and material in order to reduce complications. However, serious complications such as migration, fragmentation, encrustation, and stone formation still occur, especially when stents are left in place for long periods of time. Furthermore, a forgotten stent is very frequently complicated and poses a management and legal dilemma.³

Organic components in the urine, crystallize on bacterial biofilm formed on the stent. The adherent bacterium hydrolyzes urea to produce ammonia. The elevated urinary pH favors the precipitation of magnesium and calcium in the form of struvite and hydroxyl apatite which results in formation of a calculus.⁴

The double J stent is a double-edged weapon and, though it is regularly used, not always justified. Certain precautions and guidelines should be abided by for its appropriate use. When it is necessary, the patient and the patient's relatives should be thoroughly informed about the need, consequences, and complications, as well as its timely removal. The use of the double J stent should be documented (name, address, and contact information). The practice of such protocols will avoid unnecessary morbidity and, not to mention, legal problems.

Endourologic management of a forgotten double J stent is well established and there is an algorithm available. However, it should be managed endoscopically only by those well trained and sufficiently advanced in endourology. Open surgery has a role when multimodal endourology fails or when such a facility is not available, as in our case.⁵

In case of severe encrustations, management modalities are more complex. Many investigators have employed ESWL, URS-SE, laser-lithotripsy, PCNL, chemolysis using various chemolytic agents administered via a percutaneous nephrostomy tube, and open surgery either alone or in combination with other procedures.⁶

With widespread usage of endoscopic instruments, a tendency to use relatively noninvasive interventions has been observed. However, in the literature, frequent usage of multimodal treatment principles is remarkable.⁶⁻⁸

CONCLUSION

In developing country such incidences are thought provoking as to whether they are beneficial or pose a greater problem when used in patients who will not return back to healthcare center owing to loss of daily wages, poverty, and ignorance.⁹

Factors such as education level of patients and counseling before and after the procedure regarding DJ stent placement and its removal plays a vital role to avoid the retained/forgotten stent and in turn avoiding the morbidity associated with the stent. Computer based stent registry with patient directed automated information system can also be used.¹⁰

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