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CASE REPORT

THE CASE OF A FORGOTTEN STENT: USE OF MINIMAL ACCESS SURGERY TO GOOD EFFECT

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Abstract

A 58-year-old gentleman presented with right side ureteric colic for six months duration. He had undergone an extended pyelolithotomy for a pelviureteric junction calculus 10 years back and he had defaulted follow up. His X-ray KUB revealed a large renal calculus with a calcified feeding tube, along with a large bladder calculus with encrustation of the tube in the bladder. Cystolitholapaxy was performed for the bladder calculus, and percutaneous nephrolithotomy was performed and the renal calculus along with the calcified feeding tube was removed. At the end of the procedure, the patient was left with only a single incision of 2cm length.

Keywords Fogotten stent, percutaneous nephrolithotomy, cystolithopaxy

Case Report

A 58-year-old gentleman presented with a right sided ureteric colic for six months duration. He had undergone an extended pyelolithotomy for a pelviureteric junction calculus 10 years back, and he had defaulted follow up. According to the previous operative note, it was mentioned that a feeding tube was placed in the ureter after stone extraction. He had normal renal functions and had no evidence of urine tract infection. His Xray KUB (Figure 1) showed a large renal calculus with a calcified feeding tube, along with a large bladder calculus, most probably due to the encrustation of the tube.

Cystolitholapaxy was performed for the bladder calculus. Due to the large size, it was technically challenging to fragment the stone with the 'stone punch' lithotripter and thus Intracorporeal Lithotripsy (IPL) had to be performed. Due to the long operative time (2 hours), percutaneous nephrolithotomy (PCNL) was not done.
PCNL was performed one month after the initial surgery. The patient was placed in the prone position, and the lower calyx was punctured using fluoroscopic guidance. The stone was fragmented with IPL and retrieved, and the tube was retrieved through the nephrostomy. A Double J-J stent was inserted. A nephrostomy draining tube was passed through the single incision and was removed the following day. The post operative X-ray is as follows (Figure 3).

Discussion

This 58 year old patient presented with a large renal calculus, a feeding tube calcified throughout and a large bladder calculus.

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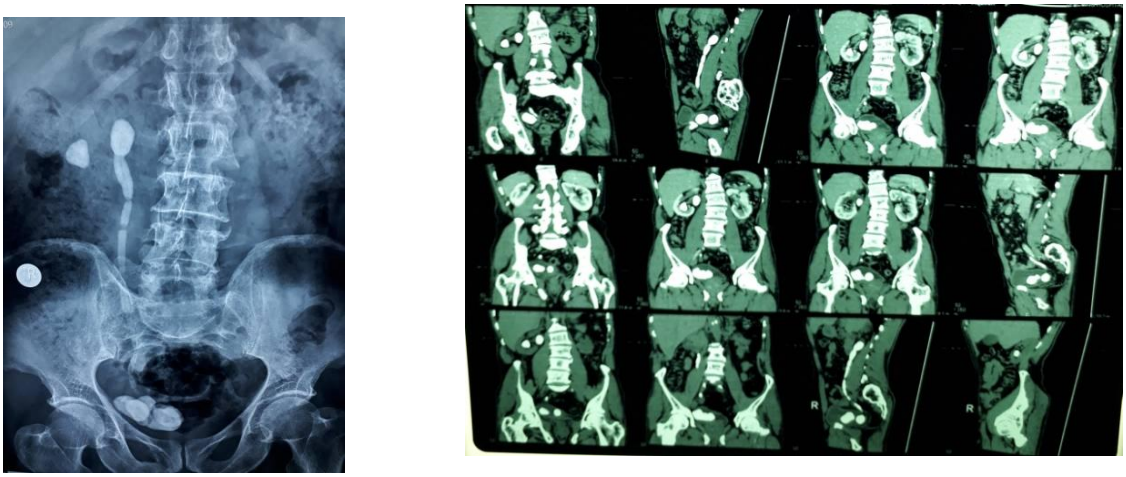

Figure 1: Pre-operative X-ray KUB with a large renal calculus with a calcified feeding tube, along with a large bladder calculus

The options were either open surgery or minimal access surgery. Open surgery would have meant that the patient would have to undergo a nephro/pyelolithotomy through a loin incision, and a Pfnannenstiel incision for vesicolithotomy. A single incision to reach the kidney and the bladder, though possible, is ill advised due to the long incision required. Due to the previous surgery, the approach to the kidney would be technically challenging as well.

The patient's lack of awareness regarding the presence of a stent inside, was the reason for the long delay in presentation. The patient had been lost to follow up, and this is the commonest cause for forgotten stents, as evidenced by most studies.[2]

Figure 2: X-ray following interventions to remove the bladder calculus

Considering all these factors and the availability of endoscopic techniques and expertise, minimal access surgery was the ideal option for this patient, in the form of PCNL and cystolitholapaxy. Though cystolitholapaxy was challenging and time consuming in this patient due to the very large size of the stone, the convalescence with this procedure is significantly better compared to that of open vesicolithotomy. We used intracorporeal lithotripsy to fragment the bladder calculus. An alternative is Holmium laser lithotripsy, which has been employed in a previous study.[2] PCNL was performed for the renal calculus and subsequent retrieval of the tube inside the ureter. Though the x-ray

KUB showed lumps of calcifications of stent inside the ureter, the tube's top end was held and pulled out with a grasping forceps, with minimal traction, suggesting that there was no adherence of the calcifications to the wall of the ureter.

At the end of the whole procedure, the patient had a single incision, 2cm in size, in the posterior aspect of the abdomen, and the stone clearance was 100%. The convalescence period of 3 days in hospital post operatively also confirms the quick recovery following minimal access surgery. Most recent studies have employed PCNL as opposed to open surgery, but there is a place for open surgery for larger renal calculi.

Figure 3: a) Removed encrusted feeding tube b) post operative X-ray with the double JJ stent in situ

A study done in Egypt by Abdelaziz et al., reported the same sequence of steps adapted by us in stent retrieval, with the initial attempt by cystolithotripsy, and retrograde ureteroscopy, followed with PCNL for stents with stone burden in the kidney.[1]

Forgotten stents pose challenges to surgeon in that retrieval is not straight forward. It is further compounded by the fact that encrustation makes removal more difficult.[2] In this case, a feeding tube had been inserted instead of a plastic polyurethane ureteral stent, most probably due to its non availability. This tube is more prone to encrustation than the conventional polyurethane based ureteral stent, as was the case in this instance. However, there is no literature on feeding tube usage as a ureteric stent. However, even the use of polyurethane ureteric stents are prone to encrustation and this is dependent on the dwelling duration.[3] A study done in Saudi Arabia showed that incrustation occurs as early as within 6 weeks of stent placement.[4] Since the degree of encrustation increases with time, the stone burden too increases with time. Polat et al., reported in their study that minimally invasive procedures are successful in stents kept for up to 30 months and that open surgery was employed for stents kept in situ for longer durations.[5] However, in our case the dwelling time of the stent was over 120 months, but despite this, it was still managed with minimal access surgery.

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