

## CASE REPORT

## TRAUMA AND RECONSTRUCTIVE UROLOGY

## An uncommon situation of kidney perforation with a ureteric stent

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We present a rare case of renal perforation by a ureteric stent. A 62 yr old patient presented with repeated episodes of febrile urinary tract infections following double J stent placement. A CT scan revealed the upper end of the stent lying outside the kidney, having pierced through the cortex. Removal of the stent cystoscopically resulted in cure of the symptoms. Post insertion of stents, it should be mandatory to confirm correct deployment of the stent via X-ray.

**Key Words:** renal perforation ◊ ureteric stent ◊ recurrent urinary tract infection

### CASE REPORT

A 62 year old woman presented with intermittent gross haematuria of 3 days duration, 5 months ago. She was treated for carcinoma of the cervix 11 yrs previous with chemo-radiation, achieving complete resolution of the primary disease. At the time of presentation, in addition to mild radiation cystitis, there was suspicion of a stricture in the right ureter. For this reason, a double J stent was inserted. After 3 months, a black silicone stent 6 Fr, 26 cm (COOK Medical) was exchanged for the previously placed stent. Both these procedures were done at another hospital. Fluoroscopy was not used for the change of DJ stent.

Postoperatively, the patient developed 3 episode of febrile UTI each lasting 5–7 days. This was treated each time with parenteral antibiotics.

To evaluate the cause of fever the patient was referred to this center. A CT scan was ordered, which revealed an extrusion of the upper end of the double J stent outside the renal parenchyma (Figure 1). A review of prior X-rays of the patient revealed the same finding, wherein the upper end of the stent was



**Figure 1.** CT scout image showing the proximal tip of the stent localized outside the outline of the right kidney.

lying outside the renal outline (Figure 2). This fact was apparently missed earlier.

The stent was removed cystoscopically. A retrograde pyelogram showed a normal ureter; hence no stent was reinserted. The patient was put on broad spectrum antibiotic cover for 14 days post operatively.

The patient's symptoms were relieved, with no further episodes of UTI in the 3 month follow up. The DTPA scan showed normal function and drainage from both kidneys.

## DISCUSSION

Ureteric stents are commonly used in urological practice for a variety of reasons including relief of obstruction, drainage of pyonephrosis, splinting of a ureteric repair or anastomosis.

Complications from insertion of ureteric stents are common – migration, encrustation and infections have been reported to occur [1]. Renal parenchymal perforations had been rarely reported earlier. Mehmet D. reported a case wherein a double J stent inserted after ureteroscopic removal of ureteric and renal calculi produced a perirenal haematoma from a parenchymal perforation. This was diagnosed on the first post operative day by CT scan following unexplained tachycardia and a drop in haematocrit [2]. A similar case was reported by Nomkomos et al. [3]. In an interesting study published in 1984, Salazar JE pointed out that an X-ray done post insertion of a stent is an important confirmation of correct placement of the position of the stent [4]. If the renal end of the stent is in a tight loop with the tip of the stent close to the long axis (distance of tip of stent to the long axis of stent is less than the diameter of the stent), the stent has been correctly deployed. However, if the distance of the tip of the stent to the long axis is more than the external diameter of the stent, and the loop configuration is not tight, it is likely to be in an extra pelvic location. A review of the X-rays of this patient showed



Figure 2. KUB x-ray showing extruded DJ stent.

that the loop was not in a tight loop and the tip of the stent was far away from the axis of the stent, pointing to extra pelvic location of the renal end of the stent. The urinary tract infections were possibly on account of transgression of parenchyma by the stent, since removal of the stent resulted in cure.

## CONCLUSIONS

We report a rare case of parenchymal perforation from insertion of double J stent presenting as recurrent urinary tract infection. Removal of the stent was curative.

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