Medial thigh pain: An unusual presentation of giant calculi in sigmoid neobladder

Nitin Abrol, Narmada Gupta, Rajeev Kumar
Department of Urology, All India Institute of Medical Sciences, New Delhi, India

ABSTRACT
Calculi in a neobladder usually present with irritative lower urinary tract symptoms, flank pain, and haematuria. We report a case of giant stones in a sigmoid neobladder, who presented with medial thigh pain.

Key words: Calculus, neobladder, neocystolithotomy, neuropathy

INTRODUCTION
Urinary stone formation is a delayed complication of orthotopic neobladder construction. The common presentations are flank pain, hematuria, and lower urinary tract symptoms (LUTS). Medial thigh pain is an unusual symptom. The stones are often large due to the asensate neobladder, and an open neocystolithotomy is often required because of altered anatomy and large stone burden. We describe a case with an uncommon presentation and complicated recovery.

CASE REPORT
A 32-year-old man presented with left medial thigh pain, LUTS, and hematuria of four weeks duration. He had undergone radical cystectomy with sigmoid neobladder construction for carcinoma bladder seven years earlier and received no further follow-up after the initial surgery. Pain was associated with a tingling sensation radiating to the knee joint and became worse with walking. He also had a sensation of some object moving inside his body. He was voiding without requiring self-catheterization. On examination, a hard lump was palpable over the left lower abdominal quadrant. His renal functions were normal. Plain X-ray demonstrated two large overlapping radio-opaque shadows in the pelvis, suggestive of neobladder calculi [Figure 1]. The diagnosis was confirmed on an ultrasonogram, which also revealed normal kidneys.

In view of the size of the stones, an open neocystolithotomy was planned. The abdomen was opened through an infraumbilical midline incision. Bowel loops were found adherent to each other and to the neobladder. These were carefully separated with blunt and sharp dissection. However, during the neocystotomy, an adherent ileal loop was injured. The neocystotomy was placed vertical, parallel to and preserving the sigmoid mesentery. Two giant calculi were removed [Figure 2]. One measured 10 x 8 x 6 cm and its weight was 435 gm and the second measured 10 x 7 x 6 cm and its weight was 380 gm. The total stone bulk was 815 gm. A resection and anastomosis of the injured ileal loop was performed and the cystotomy was closed. After the
surgery, the patient was relieved of his medial thigh pain.

On the fifth postoperative day, the patient developed intestinal obstruction that did not resolve with conservative management and an exploratory laparotomy was performed. Adhesiolysis of bowel loops was performed and another ileal loop, distal to the site of the previous anastomosis, was identified, adherent deep into the pelvis. A resection anastomosis of the ileum was performed leaving the adherent loop in situ. During the procedure, a rent was created in the neobladder wall which was repaired over a suprapubic tube. Subsequently, the patient recovered well.

**DISCUSSION**

Formation of urinary calculi in a continent reservoir is a common complication. Several causal factors are implicated, including presence of urinary tract infection, foreign body, and metabolic complications that may exist in these patients. Turk et al. showed an incidence of 5% at a mean of 5 years in patients with continent urinary diversions, with the largest reported neobladder stone being 940 gm.\(^1\)\(^2\)

The unique feature in our patient was the medial thigh pain. Antolak et al. hypothesized that thigh pain is due to obturator neuropathy caused by compression of the nerve or its roots between the psoas muscle and the stone.\(^3\)

Innervation of the thigh originates from nerve roots L2–L4. The anterior division of the L2–L4 ventral rami give rise to the obturator nerve. The anterior branch of this nerve, after piercing the psoas muscle, supplies sensory fibres to the medial aspect of the thigh.\(^4\) Any irritation or compression of the nerve along this course can cause pain in the inguinal region, radiating to the knee.

Neobladder stones can be associated with very few symptoms. Without appropriate follow-up, these can grow to remarkable dimensions.\(^5\) Their large size and altered anatomy of the bowel and neobladder often make an open surgical removal the safest approach. However, even after taking all precautions, this may not be a straight-forward procedure as in our case.

**CONCLUSIONS**

Calculi in neobladders may grow to a large size before presentation and the presentation itself may be subtle. Medial thigh pain may be a presenting feature of particularly large calculi. Open surgical removal may be a complicated, but preferred, management option.

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