Long-standing extrusion of calculus: A rare complication of urolithiasis

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ABSTRACT

There have been reports of extrusion of ureteric or vesical calculi causing various complications. Extrusion of a urinary calculus is an uncommon complication of urolithiasis. It may occur in cases of ureteral obstruction with spontaneous rupture of proximal dilated ureter and subsequent extrusion of the calculus leading to urinoma formation and sepsis. Here, we are presenting a case with long-standing spontaneous extrusion of a urinary calculus which was lying in the left pararectal region in the hollow of the sacrum.

Key words: Calculus, complication, ureteral, urolithiasis

INTRODUCTION

Rupture of the ureter / urinary bladder is a known complication during ureteroscopy / cystoscopy.[1] We have recently observed a case with long-standing spontaneous extrusion of a urinary calculus, which was lying in the left pararectal region in the hollow of the sacrum. We are presenting this case as a spontaneous extrusion of a urinary calculus, which is a rare condition.

CASE REPORT

A 28 year-old male presented with a complaint of pain in the left iliac fossa for nine days. Pain was continuous, noncolicky and nonradiating, which was resolved with analgesics. The patient was having such episodes of pain at irregular intervals for 15 years. There was no other remarkable history. General physical examination was normal. On abdominal examination, a tender mass could be appreciated in the left iliac fossa on deep palpation. Laboratory work-up was normal including hemogram, renal function test and microscopic urine examination. A kidney, ureter and bladder X-ray (KUB) revealed 1 cm x 2 cm radio opacity in the lower end of the left ureter. Intravenous urogram showed 1 x 2 cm radio opacity at the junction of the left ureter with the urinary bladder but not in the axis of the ureter [Figure 1]. There was no evidence of any back pressure change in the proximal ureter indicative of hydroureret or hydronephrosis. The final diagnosis of vesical diverticulum with calculus was made and cystoscopy was done. On cystoscopy, no opening of diverticulum could be found in the bladder.
Ureteroscopy was done but no calculus could be found in the ureters. Subsequently, contrast-enhanced computed tomography (CT) scan of the abdomen was done which revealed a 1 cm x 2 cm high-density lesion with surrounding fibrosis in the hollow of the sacrum in the left pararectal region displacing the rectum towards the right [Figure 2]. However, this lesion had no communication to the rectum or the urinary bladder. Laparotomy was done; intraoperatively, the bladder was normal and there was dense fibrosis in the left pararectal region of the retroperitoneum, however the rectum was normal. With blunt dissection, a stony body of 1 cm x 2 cm was retrieved from the retroperitoneum. The ureter was not deliberately exposed intraoperatively to prevent any inadvertent injury to the ureter due to dense fibrosis in the region. Chemical analysis of the stony body revealed its calcium oxalate and uric acid composition which was consistent with that of a urinary calculus. The patient was relieved of his symptoms and is doing well after six months of follow-up.

DISCUSSION

Extrusion of a urinary calculus is an uncommon complication of urolithiasis.[2] It may occur in cases of ureteral obstruction with spontaneous rupture of the proximal dilated ureter and subsequent extrusion of a calculus leading to urinoma formation and sepsis.[3,4] The patient commonly presents with flank pain and features of sepsis. The condition needs urgent attention and is managed by drainage of urinoma with stenting of the ureter. In some cases, the ureter may rupture secondary to interventions such as ureteroscopy or extra corporeal shockwave lithotripsy (ESWL).[5] Silent perforation of the ureter may occur secondary to a systemic disease like systemic lupus erythematosus (SLE) causing end arteritis and ischemic necrosis of ureter.[6] These defects are difficult to heal and require surgical repair.

The extruded calculus generally presents with pain, urinoma formation and sepsis but some patients may remain undiagnosed for a long time as seen in this case. An extruded calculus may form a tract between the ureter and the skin or the colon presenting with ureterocutaneous / ureterocolic fistula which mandates surgical correction.[7]

Extrusion of the calculus may occur from the bladder when a calculus is formed in a ureterocele or in a bladder diverticulum. Extrusion of the urinary calculus is extraperitoneal in most of the cases although intraperitoneal extrusion has also been reported in literature.[8]

We could not confirm the origin of the calculus in this case based on the radiological and operative findings. There remains a possibility of this being a calcified lymph node but even despite the similar chemical composition, histological evidence of a lymph node structure is generally present, which was not the case with this patient. However, we rely on the biochemical nature of the calculus which matches that of a urinary stone.

REFERENCES