

Inguinoscrotal Hernia Containing Bladder and Prostate Gland

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Abstract

An 84 year old male presented to the Emergency Department with an acutely painful inguinoscrotal swelling. CT revealed complete herniation of the bladder and prostate and urinary retention. He was catheterised and discharged home. He re-presented with upper tract obstruction and urosepsis. Nephrostomies were inserted and emergency hernia repair performed.

Key Clinical Message

Inguinal hernia containing bladder is rare. This is the only reported case of herniation of the prostate gland. In patients with herniated bladder consider upper urinary tract obstruction as well as lower tract obstruction.

Case History

An 84 year old gentleman with no significant past medical history was referred by his General Practitioner to the Emergency Department with a 2 day history of pain in a longstanding right inguinoscrotal swelling. It was noted that he had also had difficulty passing urine for the previous forty-eight hours. On examination his abdomen was soft and not tender, and in particular there was no palpable bladder suprapubically. He had a large right inguinoscrotal hernia which contained a large, tender, firm mass.

Investigations and Initial Management

Bloods on admission were unremarkable other than an acute kidney injury with a creatinine of 136 μ mol/L from a baseline of 68 μ mol/L. Computerised tomography of his abdomen and pelvis with intravenous contrast showed herniation of several bowel loops, the prostate gland and the entire bladder into the right hemiscrotum causing obstructive uropathy (see figure). He was catheterised with some difficulty and had a residual volume of 2000ml. Following discussion with the patient and his family regarding definitive management of the hernia, a joint decision was made to treat conservatively. He remained clinically stable and was subsequently discharged home with long-term catheter in situ.

Second Presentation

The patient re-presented to the Emergency Department ten days following discharge in an acute confusional state. Examination was unremarkable other than the hernia which was no longer tender. The patient's catheter was still in situ and was found to be patent.

Investigations and Further Management

Bloods on this occasion revealed high inflammatory markers and a worsening acute kidney injury: C-reactive protein was 211mg/L, white blood cells 30.3x10⁹/L, creatinine 298 μ mol/L, and potassium 6.1mmol/L. The patient was initially medically treated for hyperkalaemia and urosepsis with intravenous insulin, fluids and broad spectrum antibiotics. Following this potassium improved to 4.9mmol/L before increasing to 5.9mmol/L over the subsequent twentyfour hours.

Ultrasound scan of his urinary tract showed persistent bilateral hydronephrosis, likely due to bilateral ureteric obstruction at the point of entry into the inguinal hernia. Emergency nephrostomies were inserted bilaterally. The patient's clinical condition and blood tests improved with continuing antibiotic and fluid therapy over the subsequent three days.

At this point the management of his hernia was re-assessed and a joint decision was made with the patient that he would have an open inguinal hernia repair on the same admission. Following successful repair of his hernia, nephrostogram showed no further obstruction and hence the nephrostomies were removed. He has had no recurrence of symptoms since his operation.

Discussion

Bladder can be found in 1-3% of all inguino-scrotal hernias¹. The vast majority of these are small and asymptomatic; they are therefore often diagnosed intraoperatively during routine inguinal hernia repair². When symptoms do occur, they most commonly consist of two stage urination, in which pressure must be applied to the herniated bladder to completely drain it³. Other symptoms include non-specific lower urinary tract symptoms such as dysuria, urinary frequency and urgency, or a palpable scrotal mass¹. Possible imaging modalities to diagnose bladder herniation include non-contrast CT, CT urogram or ultrasound of the urinary tract and scrotum¹, however it has been suggested that all patients receive a CT scan at some point due to a weak association with urinary tract malignancy⁶.

In this case the patient initially presented with acute urinary retention, likely secondary to compression of the urethra below the level of the herniated prostate gland. To our knowledge this has not previously been reported in the literature as an initial presentation of scrotal herniation. This was successfully decompressed with a urinary catheter. While there have been no randomised controlled trials on the subject, it is thought that surgical repair and preoperative catheterisation is indicated in patients with symptomatic scrotal hernias⁴. However, there is a high risk of damage to the bladder⁵ and so it was decided to manage this case conservatively.

This patient presented on a second occasion with urosepsis likely secondary to upper urinary tract obstruction given the ultrasound findings of bilateral hydronephrosis. There are few reports of upper tract obstruction secondary to inguinoscrotal hernia in the literature, and these cases are all unilateral^{6,7}. On the patient's initial discharge it was thought that his bilateral hydronephrosis was secondary to vesicoureteric reflux secondary to acute retention rather than compression of both ureters. Clinicians should therefore be alert to this possibility in future and consider repeat imaging and renal function tests to assess for resolution of obstructive uropathy resulting from a herniated bladder.

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