

Spontaneous Rupture of the Bladder Complicating a Massive Benign Prostatic Hyperplasia

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ABSTRACT

A 76-year-old man presented with acute urinary retention due to a huge benign prostatic hyperplasia. Although 1.5 litres of turbid urine was initially drained through a urethral catheter, the suprapubic mass persisted and subsequently increased in size. He developed acute retention due to blood clot. Even after the catheter was changed, he remained in retention necessitating emergency prostatectomy. Rupture of the bladder with extravasation of urine and necrotising fasciitis was found at surgery. The prostate gland was very large. It was also located so low and posteriorly that the index finger was unable to enucleate the adenoma. The recti had to be divided transversely to improve access. A metal urethral dilator was used to complete the enucleation. The specimen weighed 246 gm and on histology showed BPH. He recovered to void urine satisfactorily (*Nig J Surg Res* 2000; 2:152-154)

KEY WORDS: Spontaneous bladder rupture, massive benign prostatic hyperplasia

Introduction

The usual complications of benign prostatic hyperplasia (BPH) include urinary retention, haemorrhage presenting as haematuria and the pathological effects of increasing intravesical pressure. These effects include bladder wall hypertrophy, diverticula, hydroureter and hydronephrosis.¹ Increasing intravesical pressure may ultimately cause renal failure. These complications are the major indications for the surgical treatment of BPH.² Spontaneous rupture of the bladder is rare. It has been reported in association with a giant intravesical calculus.³ This is a report of a case of spontaneous rupture of the bladder complicating a massive BPH.

Case Report

A 76-year-old man married to three wives and with twenty children presented at a peripheral

hospital with acute urinary retention. The retention followed a four-week history of poor urinary stream. There was a past history of purulent urethritis and a short episode of haematuria 6 years previously. An attempt at urethral catheterisation without an introducer at the referring hospital had failed. His blood pressure was 150/90 mm Hg. He had a 14-week size suprapubic mass. Digital rectal examination revealed a prostatic enlargement that felt benign. A size 18 F Foley's catheter was passed per urethra. Turbid urine (1.5 litres) was drained. The suprapubic mass persisted. An ultrasound scan of the renal tracts showed no renal pathology but the bladder wall was thickened.

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An intravenous urography (IVU) showed normal function in both kidneys, a kinked right ureter and elevation of the bladder base by a huge prostate. The urea was 5.1 mmol/L (normal 2.4-6.0) and creatinine 100 umol/L (normal 60-120). While being worked up for prostatectomy, he developed acute clot retention. The bladder was distended to the size of a 24-week pregnancy. A new replacement catheter drained only 10 mls of urine before it was again blocked by blood clot.

Prostatectomy was rescheduled as an emergency. Under spinal anaesthesia, a Pfannenstiel incision was made. When the anterior rectus sheath was divided transversely and the recti were separated in the mid-line, turbid offensive urine gushed out under pressure. The perivesical fascia and part of the rectus muscles were necrotic. Access to the prostate was gained through the retropubic space. The gland was so huge and placed so low and posteriorly that the index fingers could not complete the enucleation of the prostatic adenoma. The two rectus muscles were divided transversely to improve access into the retropubic space. This was not effective. Therefore, a size 28-gauge Lister's dilator was employed as a blunt dissector in the plane between the adenoma and prostate to complete the enucleation. The adenoma measured 10cm x 8cm x 3 cm and weighed 246 gm. Histology confirmed BPH. The necrotic specimen showed necrotising fasciitis and myonecrosis. Culture of the turbid fluid grew Coliform organisms sensitive to nitrofurantoin and gentamicin. The antimicrobial drugs were continued for 7 days in view of the necrotising fasciitis and myonecrosis. Four units of blood was transfused. There was minor wound infection, which was controlled. The patient was able to void urine satisfactorily. He was discharged home three weeks after operation.

Discussion

Complications of lower urinary tract obstruction include coetaneous urinary fistulae.¹ These

usually occur in the perineum in association with urethral strictures. When multiple, these fistulae may present as a watering can perineum.⁴ Spontaneous rupture of the bladder complicating a BPH has not been previously reported. The patient in the present report had a 6-year history of lower urinary tract symptoms. He probably already had a spontaneous rupture of the bladder into the extraperitoneal anterior aspect of the bladder prior to the initial presentation at another hospital. Flow through the rupture was probably unidirectional to account for the continuously increasing size of the collection and the lack of decrease in its size following catheter drainage of the bladder. The earlier attempted urethral passage of a Foley's catheter without an introducer is unlikely to have ruptured the urethra or bladder. Fistulae complicating urethral strictures occur from sepsis, which causes tissue necrosis and abscesses. Pathological connections then develop between the epithelia of the urethra and the skin.¹ This mechanism probably accounts for the spontaneous perforation in our patient. Further sepsis thereafter caused the necrotising fasciitis and myonecrosis noted at histology. Spontaneous rupture of the bladder has previously been reported in a 21-year-old mentally subnormal man. He had a huge bladder stone formed around a foreign body that he had inserted into his bladder 14 years previously.³ Spontaneous bladder perforation has also been reported in a patient with a long-standing indwelling catheter.⁵

The prostate in our patient was quite difficult to access because of its size and location. We adopted two measures that we have not done previously. The two rectus abdominis muscles were divided to improve access to the adenoma in the retropubic space. When this did not accomplish the objective, a Lister's dilator was guided into the plane between the adenoma and the normal prostate. The dilator was used to complete the enucleation gently. The application of instruments to facilitate enucleation of a prostatic adenoma has been referred to previously.⁶ A technique to facilitate

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enucleation in similar circumstances is the application of digital rectal pressure, but this may introduce infection into the wound.

As with the prevention of fistulae from strictures, prevention of spontaneous rupture can be achieved by treating the cause of urinary tract obstruction early. Also, the two additional procedures, division of the recti and use of a blunt dissector to facilitate the enucleation of a huge prostatic adenoma in appropriate circumstances may be recommended.

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