

Case Report

A rare case of a giant vesical diverticular calculus managed successfully by endoscopy

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ABSTRACT

Vesical diverticula occur in the setting of bladder outlet obstruction (BOO) and neurogenic vesicourethral dysfunction. Vesical diverticular calculi are rare, especially for minimally invasive endoscopic lithotripsy treatment. A male patient of around 80 years presented with complaints of urinary intermittency and dribbling for 3 to 4 days. On investigation, the patient was found to have a calculus within a diverticulum in the urinary bladder. After counselling, cystolithotripsy + transurethral resection (CLT+TURP) of the prostate under spinal anaesthesia was performed. Usually, open surgery is recommended for the management of vesical diverticular calculi. However, CLT+TURP was the best option, in this case, keeping in mind the patient's age and comorbidities. Simultaneous endoscopic resection of the prostate gland would help to treat the cause.

Keywords: Vesical, Calculus, Diverticulum

INTRODUCTION

A vesical diverticulum is an outpouching of the bladder wall with variable sizes. It may be either congenital or acquired.¹ Usually, vesical diverticula occur in the setting of BOO and neurogenic vesicourethral dysfunction.^{2,3} The incidence of bladder calculi in patients with benign prostatic hyperplasia is around 10%.⁴ Vesical diverticular calculi are rare, especially for minimally invasive endoscopic lithotripsy treatment.⁵ We present a case of a male patient of around 80 years having a giant vesical diverticular calculus.

CASE REPORT

A male patient of around 80 years presented with complaints of urinary intermittency and dribbling for 3 to 4 days. It was associated with lower abdominal pain. The patient has had a history of obstructive lower urinary tract symptoms for the past one year, but they were not

bothersome to the patient. The patient has been a chronic smoker for the past 40 years. There was no history of recurrent urinary tract infections, hematuria, catheterisation or trauma.

On general examination, the patient is thin-built and poorly nourished. The vital parameters were stable. On per abdomen examination, suprapubic tenderness was present. The bladder was full. The external genitalia examination was normal. On digital rectal examination, grade 1 prostatomegaly was present. There were no other abnormalities noted. Complete blood count, renal function tests and urine routine examination were normal. On chest X-ray, emphysematous changes with a tubular-shaped cardiac shadow were noted, suggesting chronic obstructive pulmonary disease changes. The ultrasound of the KUB region showed a prostate volume of 27 cc with a significant post-void residual. There was a 36 mm urinary bladder diverticulum with a neck size of 8 mm and a 10.7 mm calculus within the diverticulum

(Figure 1). The CT urogram was suggestive of a 32 mm diverticulum arising from the left lateral wall of the urinary bladder. There was a 17 mm calculus noted within the diverticulum (Figure 2).

The patient was catheterised to relieve the retention. CLT +TURP under spinal anaesthesia was performed. Intraoperatively, the urethroscopy showed normal urethral mucosa. Grade 2 bi-lobar prostate enlargement was seen. Cystoscopy showed severe bladder trabeculations. A diverticulum was noted in the left lateral wall of the urinary bladder. A ~15 mm calculus was noted within the diverticulum. Performing CLT inside the diverticulum is not preferred due to the risk of perforation of the diverticulum wall. Therefore, an attempt was made to transfer the calculus from the diverticulum to the bladder lumen. Once the calculus was inside the bladder lumen, CLT was performed. After clearing the vesical calculus, TURP was also performed.

The patient was followed up after one month. He was asymptomatic. The ultrasonography of the KUB region showed a normal urinary tract and no evidence of calculi.



Figure 1: Ultrasound image showing bladder diverticulum with calculus within it.



Figure 2: Plain CT image of the vesical diverticular calculus.

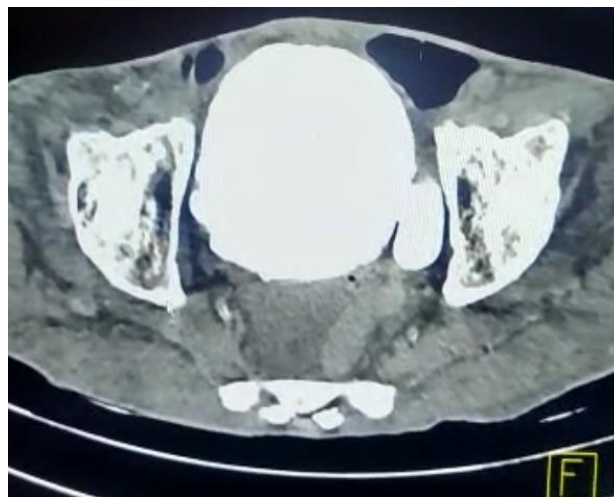


Figure 3: CT Cystogram image defining the vesical diverticulum.

DISCUSSION

The presentation of vesical diverticular calculus is a rare entity. The 5% to 16% of bladder diverticula are associated with calculi formation within the diverticula.³ In 2018, Iscaife et al described a similar case of bladder diverticulum due to BPH presenting as acute urinary retention.⁶ Vesical calculi are commonly found. However, Giant vesical diverticular calculi are rare. They are commonly secondary to BOO.⁷

For large calculi, open surgery has been recommended. However, endoscopic procedures such as cystolithotripsy are preferred for small to moderate calculi because they can be combined with the correction of BOO.²

CONCLUSION

Our case of vesical diverticular calculus is an uncommon entity. Usually, open surgery is recommended for the management of vesical diverticular calculi. However, CLT+TURP was the best option, in this case, keeping in mind the patient's age and comorbidities. Simultaneous endoscopic resection of the prostate gland would help to treat the cause.

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