

LAPAROSCOPIC TREATMENT OF A LARGE BLADDER DIVERTICULUM***A. Tmiri, M. Elbadr, A. Moataz, M. Dakir, A. Debbagh and R. Aboutaieb**

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SUMMARY

Bladder diverticula represent a rare pathology, most often asymptomatic, prostatic pathology remains the major cause of acquired diverticula, hence the male predominance of this pathology. The complications of this clinical entity are secondary to a lack of bladder emptying following the hernia of the bladder wall through the detrusor dominated by urinary tract infection, bladder stones, disorders of the lower urinary tract which poses the indication surgical. Surgical treatment can be performed endoscopically for small diverticula and by open surgery or laparoscopically for large diverticula. We report a case of a large bladder diverticulum surgically treated by laparoscopy.

INTRODUCTION

Bladder diverticulum results from a herniation of the inner layer of the bladder wall through an acquired or congenital point of weakness; it is therefore a pocket attached to the bladder through a more or less wide collar.^[1]

It is an infrequent pathology with a male predominance (sex ratio of 27/1) since it is often the consequence of a subvesical obstacle, such as prostatic hypertrophy.^[1,2] Diverticula are usually asymptomatic and therapeutic abstention is then the rule. Complications frequently appear, which must lead to an indication for surgery, dominated by infections, stones and tumours, and are directly linked to intradiverticular urinary stasis.^[1,2]

Intravenous urography, cystography, ultrasound and cystoscopy can confirm the diagnosis but uro CT remains the examination of choice for the assessment of a complication and morphological exploration before surgery. Their management can be performed by conventional open surgery, endoscopic or laparoscopy.^[1,2]

We report a case of a large bladder diverticulum complicated by intradiverticular hemorrhage treated laparoscopically.

OBSERVATION

An 80-year-old patient, no particular pathological history, presented to the emergency department for total clotted hematuria evolving for 3 months associated with

lower urinary tract disorders made of pollakiuria. The tower evolving in a context of apyrexia and conservation of the general state. The clinical examination found a prostate increased in volume, supple, without any other associated signs.

The abdomino-pelvic CT scan showed the presence of a vesical diverticulum lateralized to the left measuring 83*58 mm extending over 74 mm in height, complicated by intra-lesional hemorrhage with homogeneous prostatic hypertrophy of 60 ml.

Faced with these scannographic images, the patient initially benefited from a cystoscopy objectifying the presence of a large prostate, a struggling bladder with a voluminous diverticulum of the left lateral wall then, secondly, from a transurethral resection of the prostate with a biopsy of the intradiverticular contents the anatomopathological examination was unremarkable with absence of tumor cells.

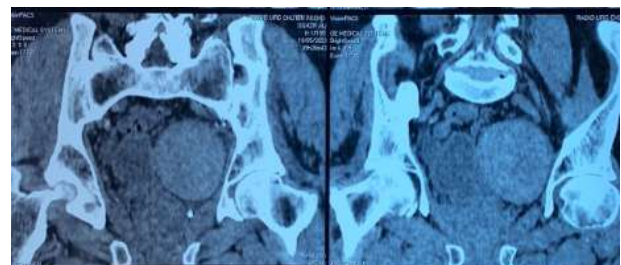


Figure 1: Abdomino-pelvic scanner objectifying the presence of a large bladder diverticulum on the left side wall.

The patient underwent laparoscopic bladder diverticulectomy with simple postoperative follow-up.



Figure 2: Laparoscopic bladder diverticulectomy.

DISCUSSION

The bladder diverticula correspond to hernias of the bladder mucosa through the detrusor and are most often asymptomatic, their discovery is fortuitous in 80% of cases during an imaging examination or an endoscopic exploration. The surgical indication is posed in front of the occurrence of complications dominated by urinary tract infection, bladder stones, disorders of the lower urinary tract secondary to a defect in bladder emptying, this defect depends on the location and size of the diverticula.^[3]

A retrospective study by Diallo *et al.*^[1] concerning Bladder diverticula in the urology department of the CHU Ignace Deen in Conakry noted that this pathology represented only 1% of hospitalizations during the 5 years of study, The average age was 66.57 years with extremes of 1 year and 98 years with male predominance given that the obstacle was below the bladder in 96% of cases, of which more than 60% of cases were prostatic. The indication for diverticulectomy in this series was based on the volume of the diverticulum (diameter equal to or greater than 4 cm) and its poor drainage, which is appreciated by post-void radiographs or cystotomy. The treatment was surgical once out of two with simple consequences.^[1]

Surgical treatment of bladder diverticula can be endoscopic, open or laparoscopic, the latter can be performed transperitoneally or extraperitoneally. Endoscopic treatment is dedicated to small-sized diverticula, while laparoscopic or open-air treatment is performed for large-sized diverticula. The most critical step is the demonstration of the diverticulum so that the transillumination by cystoscopy is effective in guiding the laparoscopic dissection.^[4]

Nadler *et al.*^[5] reported that laparoscopic extraperitoneal diverticulectomy of the bladder is superior to the transperitoneal approach especially in terms of iatrogenic complications by avoiding manipulation or mobilization of intraperitoneal structures, and possibly reducing postoperative complications, such as hernia formation. In addition, if postoperative urinary leakage develops, it would be extraperitoneal. Nevertheless, the transperitoneal approach allows better space for identification and dissection of posterior diverticula and intracorporeal suturing.^[5]

A study carried out by **Porpiglia *et al.***^[6] allows comparison between transurethral resection of the prostate and sequential laparoscopic diverticulectomy of the bladder, and combined open bladder diverticulectomy and transvesical prostatectomy. The results of this study showed that sequential transurethral resection of the prostate and laparoscopic transperitoneal diverticulectomy for large diverticula remains a safe, effective and minimally invasive procedure, despite longer operating times compared to transvesical prostatectomy and open diverticulectomy.^[6]

In our case, the treatment was surgical via the transperitoneal laparoscopic route preceded by a transurethral resection of the prostate with simple postoperative consequences.

CONCLUSION

The main difficulty found during laparoscopic excision of a large bladder diverticulum is respecting the ureter adhering to the diverticulum, hence the interest in placing a ureteral catheter to prevent accidental wounds of the ureter, as well as the location of the diverticulum.

Resection of the diverticular mucosa must be complete to avoid recurrence or urinary fistula.

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