INTRODUCTION

Leiomyoma of the urinary bladder, although very rare, is the most common mesenchymal tumour and accounts for 35% of benign bladder tumours.1 An estimated 200 cases have been described in literature. The tumour is three times more common in females and has been described more commonly in the 3rd and 4th decades of life.2 Reported tumour sizes vary from a few millimeters to 30 cm, although a majority of patients have a tumour size of less than 10 cm. The etiology of this interesting tumour remains obscure. The female preponderance during reproductive age points to a hormonal influence. The tumour has been reported during pregnancy. Several hypotheses have been made regarding its etiology: embryonic rest cells, postinflammatory myomatous metaplasia and wandering fibroid representing a parasitic uterine leiomyoma.3 The precise mechanism regarding its etiology remains uncertain. However, it has been suggested that estrogen may contribute to the growth of leiomyomata.4 Estrogen receptors have been identified in leiomyomatous tissue.5 In addition, estrogen and progesterone receptors are expressed in the bladder.6 The patients present on account of haematuria, passage of clots, purulent urethral discharge and bladder outflow obstruction.2 In males, the most common presentations involve voiding urinary symptoms and haematuria.

The present case report describes concurrent occurrence of vesical leiomyoma and calculus in an elderly male.

CASE REPORT

A 65-year-old gentleman presented to a primary care health centre of Fauji Foundation Hospital with 4 months’ history of painless haematuria and passage of clots. He also had moderate irritative urinary symptoms for the last 3 months. There was no history of smoking or exposure to industrial environment. The patient was not taking any medication. Clinical examination was unremarkable except for mild suprapubic tenderness and enlarged prostate on digital rectal examination.

On plain X-ray KUB there was triangular radiopaque shadow measuring 1.7 x 1.2 cm\(^2\) in the pelvis. Ultrasound scan of the urinary tract revealed left sided hydronephrosis and hydroureter. There was an echogenic mass measuring (4.2 x 1.9) \(\times\) (1.7 x 2.2) cm\(^2\) occupying the left posterolateral wall of the urinary bladder encroaching upon the left ureterovesical junction. There was another mobile echogenic shadow 1.7 x 1.2 cm\(^2\) in the lumen of the urinary bladder (Figure 1). Prostate was moderately enlarged weighing 30g. There was no contrast excretion from the left kidney on IVU and there was a smooth filling defect on the left lateral wall on bladder films (Figure 2). On the

ABSTRACT

Leiomyoma of the urinary bladder is a rare benign mesenchymal tumour. We describe here a case of leiomyoma of the urinary bladder in a 65-year-old gentleman who presented with haematuria, passage of clots and combined obstructive and irritative urinary symptoms. The investigations revealed a vesical calculus and a mass on the left lateral wall of the urinary bladder. Cystolitholapaxy and transurethral resection of the tumour was performed. Histopathological report of the resected tumour revealed a leiomyoma of the urinary bladder. So far, a leiomyoma of the urinary bladder and a concomitant vesical calculus have not been described in literature.

Key words: Leiomyoma. Litholapaxy. Transurethral resection. Vesical calculus. Urinary bladder.

1 Department of Urology, Foundation University Medical College, Rawalpindi.
2 Department of Medicine, Foundation University Medical College, Rawalpindi.
3 Department of Surgery, Fauji Foundation Hospital, Rawalpindi.

Correspondence: Dr. Ghulam Murtaza Gondal, H-No. 81-B, National Housing Scheme 2, Adiala Road, Rawalpindi.
E-mail: drgmgondal@hotmail.com

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basis of these findings a diagnosis of a vesical calculus and a mass in urinary bladder encroaching upon the left ureterovesical junction was made.

A uretherocystoscopy of the patient was performed. Both the lateral lobes of the prostate were moderately enlarged but were not bulging into the prostatic urethra. The median lobe of the prostate was not enlarged. An irregular shaped vesical stone measuring approximately 4 x 2 cm was seen in the urinary bladder. The stone was fragmented with a stone punch and fragments were evacuated. There was a smooth surfaced yellow-brown mass covered with intact mucosa occupying the left lateral wall of urinary bladder. Transurethral resection of the mass was carried out along with flushing of bladder wall. Postoperative course was uneventful. Macroscopic examination of the specimen showed firm tan-coloured fragments of tissue. On microscopic examination, interlacing fascicles of smooth muscle cells were seen separated by scant hyaline stroma. Mitotic figures or cellular atypia was not present. The pathological diagnosis was leiomyoma of urinary bladder (Figure 3). On check cystoscopy performed at three months, there was no evidence of recurrence.

**Figure 3: Histopathology of Leiomyoma urinary bladder showing interlacing fascicles of smooth muscle cells separated by scant hyaline stroma.**

**DISCUSSION**

Leiomyoma of the urinary bladder, despite being rare, remains the commonest benign tumour of urinary bladder. It accounts for approximately one-third of all benign mesenchymal neoplasms of this organ. About 200 cases have been reported so far. To-date, no case of leiomyoma of urinary bladder with vesical stone has been reported in literature as diagnosed in this patient. However, the presence of vesical stone can not be attributed to the tumour. In a study, the most common symptoms were obstructive voiding symptoms (49%), followed by irritative symptoms (38%), and hematuria (11%). It has been suggested that these tumours are symptomatic due to anatomic location and size. Specifically, tumours which are located near the bladder neck or ureteral orifices are more likely to cause obstructive symptoms, while larger tumours tend to cause irritative symptoms.

The submucosal location with intact mucosa is a characteristic feature of this tumour and thus it resembles a uterine leiomyoma. Histologically one can appreciate whitish-grey nodules with round lumps. There are also fascicles of spiral or vortex-appearing smooth muscle fibers separated by connective tissues. These tumours typically have less than 2 mitotic figures per high-power field. Grossly, these tumours are classified into three types namely: endovesical (63%) intramural (7%), and extravesical (30%). Of these three types, the endovesical form is most likely to be symptomatic because it protrudes into the lumen of the bladder and is also more likely to cause obstruction, irritation, or bleeding. On the other hand, in the more common transitional cell carcinoma, the bladder mucosa is the first site to be affected.

Various imaging modalities can contribute to the diagnosis of urinary bladder leiomyoma. Ultrasound (US) usually reveals a smooth-walled hypoechoic solid tumour, with varying degrees of internal echoes, covered by a thin hyperechoic line of mucosa. IVU shows a smooth filling defect representing the tumour. The tumour has also been diagnosed by suprapubic transcutaneous needle biopsy. Both CT and MRI have been found useful in the evaluation of this tumour. However, MRI has the advantage over CT due to superior contrast and spatial resolution. On both T1- and T2-weighted images, leiomyomas are usually seen as low intensity nodules with smooth surfaces. Some tumours enhance homogeneously after injection of gadolinium while others particularly degenerative leiomyomas show poor or heterogeneous enhancement.

On cystoscopy, the leiomyoma typically is seen as a submucosal bladder mass with smooth and regular overlying mucosa. As bladder leiomyoma is a benign mesenchymal tumour, urethrocystoscopy and Transurethral Resection (TUR) of the tumour is curative and is the treatment of choice as done in this case. In a report on 37 patients, Goluboff and associates described treating asymptomatic patients conservatively and 34 patients with definitive surgery. Of the 34 patients who had definitive surgery, 11 had TUR while 23 had open surgery; 17 had simple enucleation, 6 had partial cystectomy, and 2 had cystoprostatectomy. Cystoprostatectomy was performed in patients with tumours greater than 20 cm and involving the ureters. Of those patients, 2 who underwent TUR, needed a second operation for residual tumour.

Follow-up of these cases up to 20 years has not shown evidence of recurrence or malignant transformation.
This is the first report of a case of leiomyoma of the urinary bladder with a vesical calculus. Simultaneous cystolitholapaxy and transurethral resection of the tumour was carried out.

REFERENCES