

# Bladder Leiomyoma, Presenting As A Cystitis-Like Syndrome

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## Abstract

We report a case of a 27-year-old woman with a three-month history of frequency, urgency and mild dysuria interpreted as cystitis. When macroscopic hematuria ensued, an ultrasonography (US) was performed that revealed a round homogenous mass protruding into the bladder lumen. Magnetic resonance imaging (MRI) showed a pedunculated tumour with the same signal as muscle on T1 weighted and low intensity in T2 weighted sequences. After a transurethral biopsy that showed no malignancy, a transvesical approach was used to resect the tumour. Pathology revealed a bladder leiomyoma. Bladder leiomyomas although rare, are the most frequent benign bladder tumours. The majority of patients report filling symptoms, and a considerable number will also have voiding symptoms that can simulate cystitis. Although bladder masses are an unusual cause of urinary symptoms, in patients with long symptomatic history, this pathology should be discarded.

## CASE REPORT

A 27-year-old female was admitted to our hospital with hematuria, without dysuria or flank pain. She had been complaining of frequency, urgency and sometimes mild dysuria for three months, and treated with several courses of antibiotics with no success. Physical examination was unremarkable. Ultrasonography showed a smooth solid mass in the posterior bladder wall, protruding into the lumen, and with peripheral hyperechogenicity (fig.1). She underwent a cystoscopy that revealed a round mass, covered with a hyperaemic mucosa. A non-epithelial neoplasm was suspected and a MRI was performed prior to surgery (fig.2). The MRI showed a 5-cm homogenous intermediate intensity mass in T1 weighted, slightly hypointense in T2, and with a small stalk originating in the posterior bladder wall. Although these MRI findings are very specific of benign mesenchymal tumour, malignancy could not be excluded with certainty, so a transurethral cold-cup biopsy was performed. The histological examination of the tissue fragments revealed inflammation of the mucosa and scant smooth muscle cells without atypia. The patient was submitted to a transvesical resection of the tumour. Histopathology disclosed a leiomyoma. After 36 months the patient is asymptomatic, with no evidence of recurrence on US.

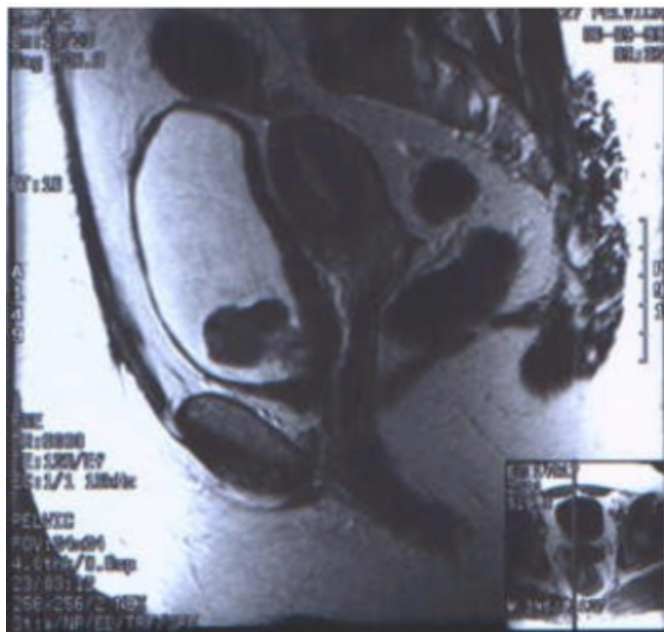
## Figure 1

Fig. 1. Bladder ultrasonography showing a smooth endovesical mass with peripheral hyperechogenicity.



**Figure 2**

Fig. 2. Pelvic MRI showing a homogenous mass, with a small stalk, in the posterior bladder wall.



**DISCUSSION**

Benign mesenchymal tumours of the bladder are rare, accounting for 1 to 5% of bladder neoplasms (1). Leiomyomas represent the largest subgroup of these tumours and occurs more frequently in women (2). Any layer of the bladder wall may be affected and according to their position can be categorized as endovesical, intramural and extravesical, occurring with a frequency of 52,3%, 30,7% and 17% respectively (3).

A quarter of these tumours are diagnosed in asymptomatic patients usually by ultrasound (3). The majority of the symptomatic patients will report filling symptoms, and a considerable number will also have voiding symptoms that can simulate cystitis. Only 11 to 20% of patients will have hematuria (2,3).

The appearance of these tumours on US, mainly those with endovesical growth, is very characteristic. They appear as a homogenous smooth mass with peripheral hyperechogenicity (4,5). Computed tomography scans can precisely locate these tumours, but are inadequate to identify the liquid or solid nature of the lesion, and its relation with

surrounding structures. On the other hand MRI can show more specific signs of a mesenchymal tumour and clearly depict its relation to the bladder wall (6). Anyway no imaging technique can safely exclude malignancy, so histological characterization should always be attempted prior to invasive therapeutic procedures.

Most endovesical leiomyomas can easily be treated by transurethral resection, but big lesions should be considered to open surgery. Intramural and extravesical tumours can be enucleated, even very large ones (7), rendering almost all patients recurrence free (3). Transvaginal resection can also be used in extravesical lesions in the posterior bladder wall or near the urethra.

Although bladder leiomyomas are rare, they should be discarded in patients with a prolonged history of urinary tract symptoms. In symptomatic patients surgery is a very effective treatment, associated with low morbidity, rapid relief of symptoms and very high cure rate.

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