

Leiomyoma of the Bladder: A case report and review

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Abstract

Presentation

A 39 year old gentleman who present with severe chronic groin pain, dysuria and urinary frequency. His clinical examination, blood and urine results were normal.

Diagnosis

He underwent a ultrasound bladder and was noted to have a soft tissue mass of the bladder. A CT abdomen and pelvis reported a 5x3cm predominantly exophytic lobulated soft tissue mass in the left anterolateral bladder wall. This gentleman then proceeded to flexibly cystoscopy which did not identify a mucosal lesion, the mass appeared to be within the bladder wall. Initial biopsies were taken during the flexible cystoscopy which found no evidence of invasive malignancy or carcinoma in-situ.

Treatment

He underwent a partial cystectomy. Histology revealed leiomyoma of the bladder.

Discussion

Leiomyoma of the bladder is a rare benign smooth muscle tumour with only a small number of cases reported in the literature. We discuss the presentation, diagnosis and management strategies of this rare urological condition.

Introduction

Leiomyoma is a rare benign smooth muscle tumour which can occur in any muscle in the body, but most commonly occurs in the uterus as fibroids. Leiomyoma of the bladder is exceptionally rare with only a small number of cases reported in the literature internationally^{1,2,3}.

Case report

A 39 year old gentleman was referred to the urology department with severe chronic groin pain, dysuria and urinary frequency. His general practitioner had organised an ultrasound (US) pelvis and kidneys which noted a soft tissue mass adjacent to the left bladder wall measuring 3.8x3.4cm.

He had no significant past medical history.

His clinical examination, blood and urine results were all normal.

A Computed Tomography (CT) abdomen and pelvis was undertaken and reported a 5x3cm predominantly exophytic lobulated soft tissue mass in the left anterolateral bladder wall.

This gentleman then proceeded to flexible cystoscopy which did not identify a mucosal lesion, the mass appeared to be within the bladder wall.

Initial biopsies were taken during the flexible cystoscopy which found no evidence of invasive malignancy or carcinoma in-situ.

He proceeded to transurethral resection of this intramural lesion. The lesion again appeared to be intraluminal and was only partially resected. Histology reported mucosal ulceration with prominent lamina propria oedema, dense transmural eosinophilic infiltration which extended deeply into the muscularis propria. Areas of fibrosis, muscle fibre distortion and focal muscle necrosis were noted.

After discussion at multi-disciplinary team meeting, he underwent an Magnetic Resonance Imaging (MRI) pelvis which reported an irregular 4.5x4.5x3.5cm bladder mass on the left lateral wall of the urinary bladder anteriorly which appeared to be confined by the detrusor muscle with a large intraluminal component (Figure 1). The mass had a significant degree of low T2 signal within; which could reflect fibrotic tissue and avidly enhanced following contrast. There was also a 0.5cm lymph node in the anterior para-vesicle fat adjacent to the mass. The differential diagnosis included eosinophilic cystitis, leiomyoma or an atypical squamous cell or transitional cell carcinoma.

The patient had ongoing pain, discomfort, dysuria and frequency. He decided to proceed to partial cystectomy. The final histology resulted in a diagnosis of benign leiomyoma of the detrusor muscle (Figure 2).

At 3 month follow-up review, the patient was well and his bladder pain and lower urinary tract symptoms (LUTS) have entirely resolved.

Discussion

Leiomyoma of the bladder is a rare urological condition with only a small number of cases reported, it accounts for <0.5% of benign bladder tumours, although it is the most common mesenchymal tumour of the bladder^{2,4}.

Leiomyomas are most common in females between 40-50 years of age¹. The aetiology of leiomyoma remains unclear². Leiomyomas can present in a number of different ways but most commonly present with LUTS, however many are asymptomatic and incidentally discovered^{3,5}.

Ultrasound, CT and MRI can be used to assess these lesions, MRI is generally considered the imaging modality of choice^{4,6,7}.

Histologically leiomyomas of the bladder have fascicles of smooth muscle fibres with cigar shaped nuclei, located centrally^{7,8}.

Bladder leiomyomas are managed surgically; smaller lesions may be amenable to transurethral resection, however for larger lesions; open, laparoscopic or robotic excision is the surgical option of choice^{2,4,6,7,9,10}.

Surgical complications are rare, particularly with smaller lesions, the vast majority of patients achieve symptomatic relief and recurrence is rare⁶.

There is no consensus or guidelines as to how patients with bladder leiomyoma should be followed up, experts vary between symptomatic follow up only, MRI, US or flexible cystoscopy⁹⁻¹¹. While the scientific reasoning behind this is not very clear, the authors suggested yearly flexible cystoscopy for 5 years and MRI imaging if indicated.

In conclusion, leiomyoma of the bladder is rare, and generally presents with LUTS. MRI is the imaging modality of choice. Larger lesions require excision however smaller lesions can be managed using transurethral resection. Overall, prognosis is excellent.

Learning Points

- Leiomyoma of the bladder is rare.
- Leiomyoma of the bladder can present with LUTS.
- MRI is the imaging modality of choice.
- Larger lesions require excision however smaller lesions can be managed using transurethral resection.
- Prognosis is excellent.

Declarations of Conflicts of Interest:

None declared.

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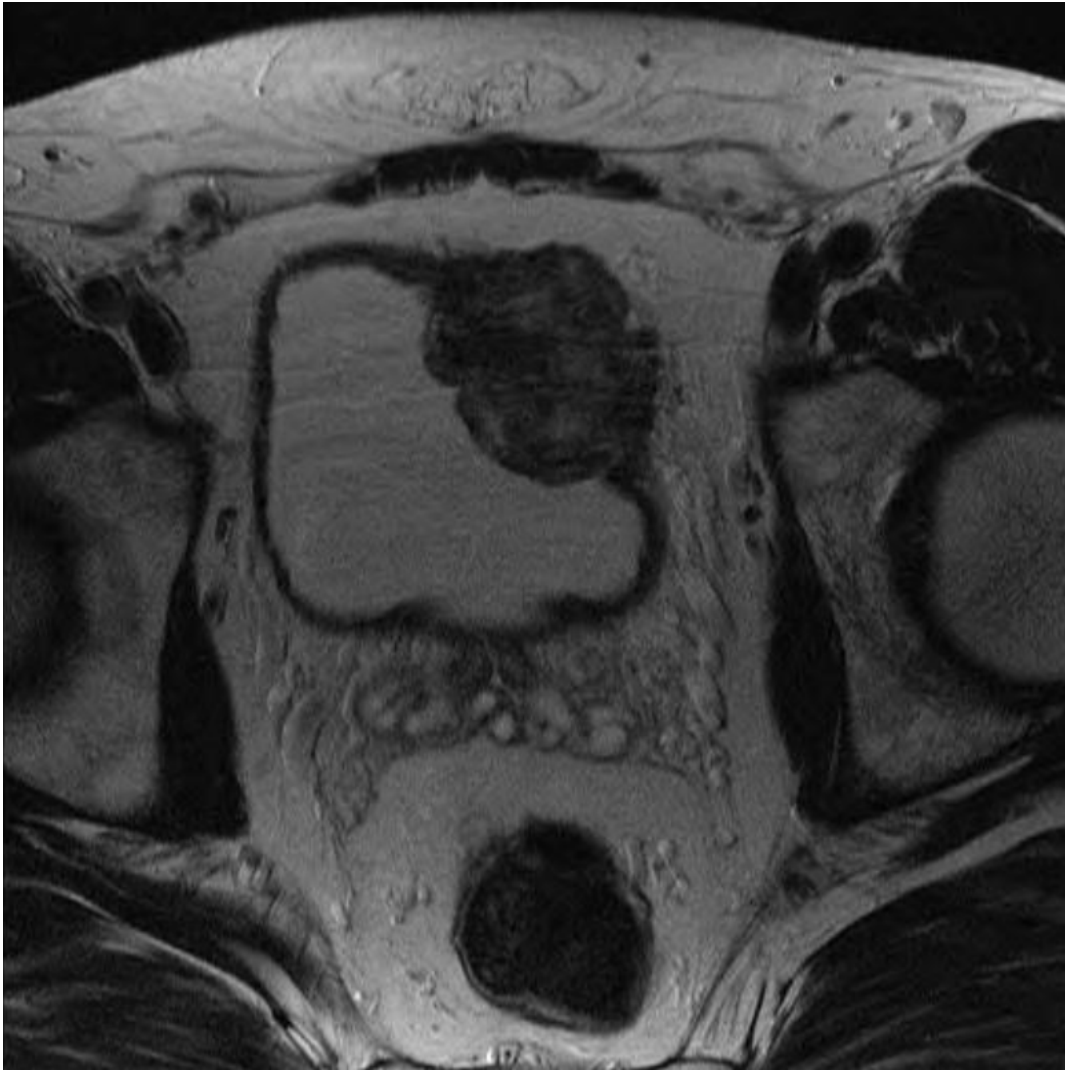
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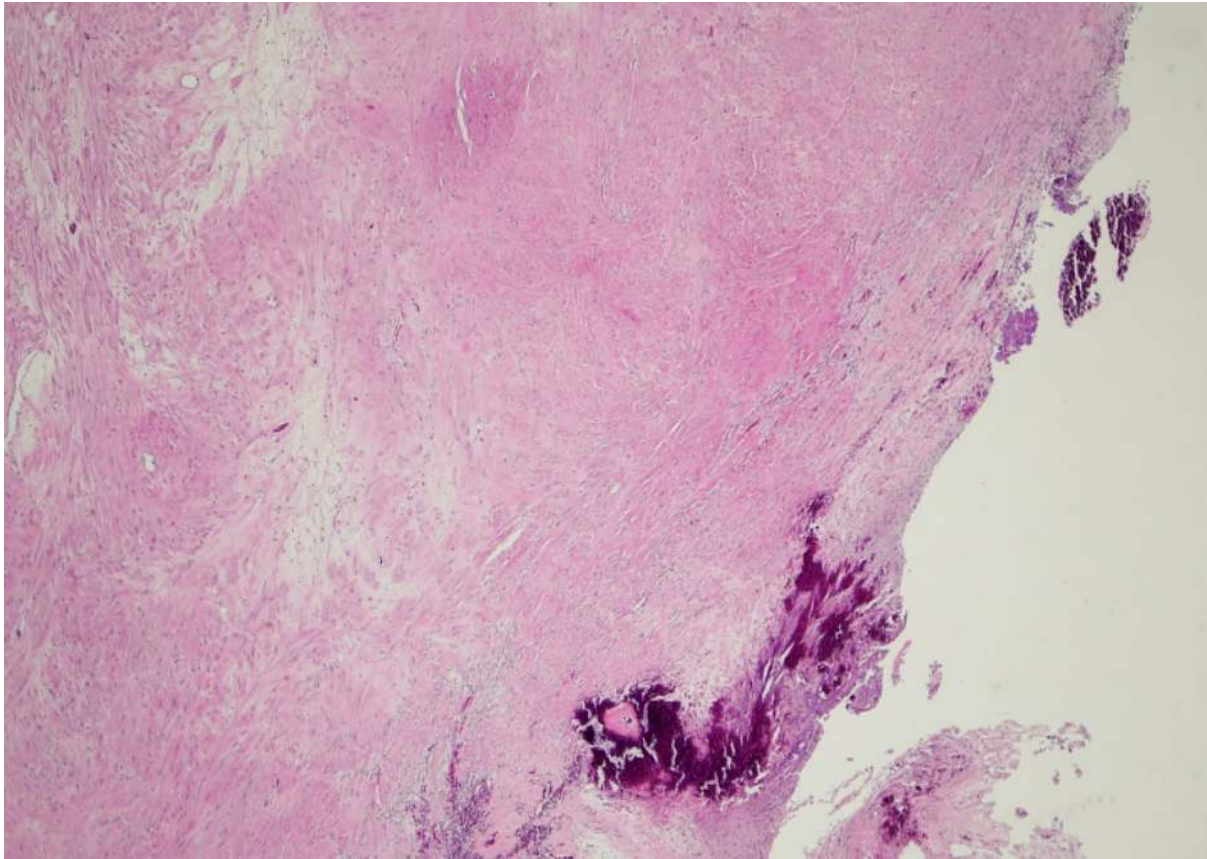
Illustrations:

Figure 1:



MRI pelvis which reported an irregular 4.5x4.5x3.5cm bladder mass on the left lateral wall of the urinary bladder anteriorly which appeared to be confined by the detrusor muscle with a large intraluminal component.

Figure 2:



Histology slide showing leiomyoma, with surface and coarse calcifications