

Oncology

Rare case presentation of leiomyoma of bladder neck with tuberculous pelvic lymphadenitis in a young female patient

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ABSTRACT

Bladder neck leiomyoma presenting with gross haematuria and clot retention is a rare clinical scenario. A thirty-three-year-old female presented to the emergency department with a history of lower abdominal pain and gross haematuria for a few days. Abdominal and pelvic ultrasonography examination was complimented with CT and MRI scans showing a $7.6 \times 7 \times 6.5$ cm well-defined mass at the bladder base. There was also pelvic and retroperitoneal lymphadenopathy. Laparotomy with enucleation of the mass along with lymph node biopsy was performed with satisfactory control of the bleeding. Histopathology confirmed the diagnosis of leiomyoma of the bladder neck associated with tuberculous lymphadenopathy.

Introduction

Leiomyoma is a rare urinary bladder mesenchymal neoplasm. It usually presents with obstructive urinary tract symptoms. However, it could present with irritative symptoms or rarely with haematuria.¹ Leiomyoma is the most common benign soft-tissue tumour of the urinary bladder, and almost 300 cases have been reported in the literature.² However, to our knowledge, a dramatic presentation with exsanguinating haematuria has never been reported. The synchronous pelvic and retroperitoneal tuberculous lymphadenopathy is also a pitfall, which can impose a further challenge to the pre-operative diagnosis. We present the management of a case with bladder neck leiomyoma associated with tuberculous lymphadenitis and presenting with severe haematuria.

Case presentation

A thirty-three-year-old female patient presented to the accident and emergency department with profuse haematuria of sudden onset with lower abdominal pain. She denied any lower urinary tract symptoms, fever, chills, loin pain or dysuria. She had a past medical history of amenorrhoea and infertility.

She was very anxious, pale, hypotensive and tachycardic. Abdominal examination revealed a tender palpable bladder extending to just below

the umbilicus. Bimanual pelvic examination after catheterisation of the bladder showed a large supra-pubic mass that did not extend to the anterior vaginal wall or the cervix. There was bleeding per urethra with no vaginal bleeding or pelvic organ prolapse.

Immediate resuscitation, according to the ATLS guidelines, was initiated with fluid and a blood transfusion until she was haemodynamically stable. Bedside ultrasound, performed by the attending urologist, revealed a large distended bladder with urine that contained large amounts of hyperechoic materials as well as a big mass projecting into the bladder lumen. The mass had the same echogenicity as the uterus. The bladder was catheterised draining 1500 ml haematuria with blood clots. Her haemoglobin was 88 gm per litre, but other blood parameters were within normal limits.

Bladder irrigation was started, and the patient received a blood transfusion. The patient was stabilised, and the haematuria improved. A CT scan was arranged, showing a large smooth-outlined bladder tumour arising from the base. There was also low-volume pelvic and retroperitoneal lymphadenopathy.

An MRI was arranged to evaluate the detailed anatomical abnormality and the extent of the mass and the associated lymphadenopathy, which could raise the potential diagnosis of malignancy. MRI revealed an intermediate T1/T2 weighted signal intensity of the mass measuring $7.6 \times 6.7 \times 6.5$ cm. No perivesical or extravescical tissue invasion was

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Fig. 1. MRI T2 Sagittal view of the urinary bladder showing the mass which is of the same signal intensity as the uterus.

seen (Figs. 1 and 2). It also showed bilateral external iliac lymph node enlargement, the largest on the left side was 9 mm in diameter. Radiologically, the features were suggestive of leiomyoma of the bladder with no evidence of extravesical extension or cervical invasion.

After the blood transfusion, the haemoglobin was stabilised at 130 gm per litre when she was taken to the operating theatre. Examination under anaesthesia showed a mass arising from the bladder base but no breach of the vaginal wall. Cystoscopy revealed a patulous urethra, which was obstructed at the level of the bladder neck by the large mass extending to the trigone. Ureteric orifices could not be seen due to the presence of the mass, which was actively bleeding. Due to concerns about on-going bleeding, we decided to proceed with excision of the mass without biopsies.

Through a transverse supra-pubic incision, the cave of Retzius was opened to perform the procedure extra-peritoneally. The bladder was accessed and opened transversely. The mucosa was incised just above the bladder neck, and the mass was enucleated completely. The mucosa was repaired, bilateral double JJ stents were inserted, and the bladder was closed. A large palpable lymph node in the left external iliac area was excised. The postoperative recovery was uneventful. A Foley catheter was kept for two weeks and removed after a cystogram revealed no contrast extravasation. The JJ stents were removed two weeks later.

Histopathological studies confirmed the diagnosis of benign bladder

leiomyoma with no cytologic atypia, mitoses or necrosis seen (Fig. 3 A & B). The lymph nodes showed necrotising granulomatous inflammation. Ziehl-Neelsen stain was positive for acid-fast bacilli indicative of tuberculous lymphadenopathy (Fig. 3 C).

The patient also had a positive Quantiferon test. However, as our patient did not have clinical evidence of active tuberculosis, on discussion with our Infectious Disease team, she was discharged on a 6-months course of directly observed anti-tuberculous therapy.

Discussion

Haematuria as a presenting symptom of leiomyoma of bladder is rare. Leiomyoma of the bladder neck is rare and presents mainly with obstructive or irritative symptoms.³ Goluboff et al. reviewed the literature on bladder leiomyoma reporting that 49% present with obstructive symptoms, 38% with irritative symptoms, 11% with haematuria and 19% were asymptomatic.¹ Our patient's leiomyoma was asymptomatic for a while until she presented with frank haematuria. Sudden severe macroscopic haematuria is uncommon in young women and is usually due to glomerular causes rather than urological pathology.

Benign mesenchymal neoplasms of the urinary bladder are rare, and among these tumours leiomyomas are the most common, comprising one-third of them and representing 0.43% of bladder tumours.⁴ Leiomyomas could be endo-vesical (63–86%) as in this patient, extravesical (11–30%) or intramural which is very rare (3–7%).² Leiomyoma is more prevalent in females.

However, malignant bladder masses have been reported in young patients, which require different surgical approaches than the one used in this case. Abdominal tuberculosis manifests as lymphadenopathy in up to two-thirds of patients,⁵ which is often mistaken for malignancy. Despite the coexisting lymphadenopathy, prompt CT and MRI scans helped characterise this patient's large bladder tumour as likely to be leiomyoma, to the point of allowing us to approach this as a case of a large, bleeding, benign tumour more conservatively.

Conclusion

It is important for the clinicians to be suspicious of the rare causes of haematuria when evaluating patients presenting with a sudden onset of unexplained severe haematuria. The availability of the ultrasound machine and trained physicians to use it is the first tool to suspect the diagnosis of such rare conditions. Urgent CT and MRI of pelvic masses can help guide the treatment approach.

Declaration of competing interest

None to declare.



Fig. 2. MRI scan (T-2 weighted) showing the large bladder mass and enlarged pelvic lymph node on the left (arrowhead).

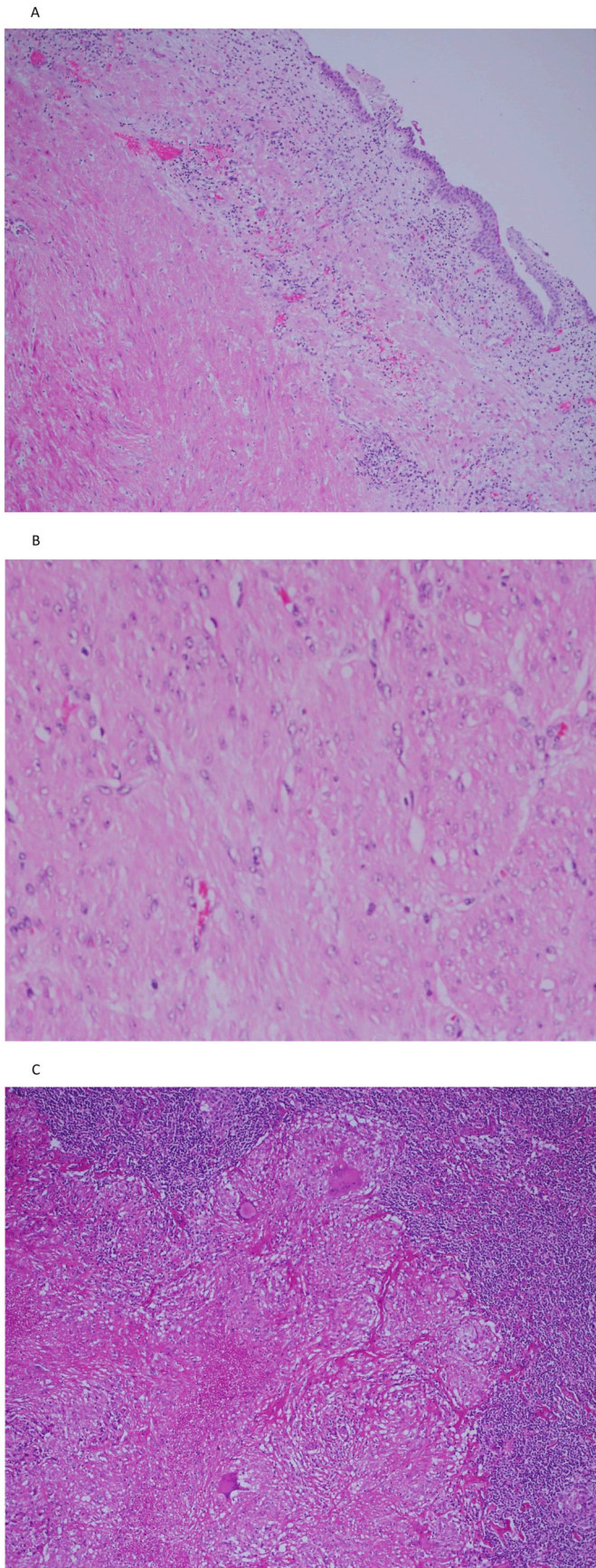


Fig. 3. Panel A. Photomicrograph is showing the luminal surface of the mass covered by partly denuded urothelium ((H&E stain at 200 power magnification). Panel B. At higher magnification the tumour comprised fascicles of bland spindle-shaped cells in a scanty hyaline stroma typical for a benign smooth muscle neoplasm ((H&E stain at 400 power magnification). Panel C. Histology of the lymph nodes showed multiple, coalescent, epithelioid granulomas with Langerhans' type giant cells and necrosis (H&E stain at 100 power magnification).

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