CASE REPORT

Unusual presentation of uterine leiomyoma

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SUMMARY

Uterine leiomyoma is the most common pelvic tumour in women. The presentation of uterine leiomyoma varies. Symptoms may include abnormal uterine bleeding or abdominal pressure and heaviness; however, most cases are asymptomatic. We report a case with renal impairment as the first presentation of uterine leiomyoma in a patient who presented with extensive bilateral lower limb oedema and no menstrual symptoms. Imaging studies, a subsequent Papanicolaou test and uterine biopsy were suggestive of uterine leiomyoma, which was confirmed by pathological examination after hysterectomy. The patient's kidney impairment resolved completely after the procedure.

BACKGROUND

Uterine leiomyomas are symptomatic in 25% of cases.^{1–3} Unusual presentations have been reported.^{4–7} Large uterine leiomyomas can result in compressive symptoms that may be discovered incidentally, such as hydronephrosis; this may be why it is under-reported, especially in those cases that do not involve a decrease in the biochemical indices of renal function.⁵ Prognosis in patients with obstruction is good in comparison to other causes of renal impairment.⁵ It is unusual for uterine fibroids to present as full blown renal impairment as the initial symptom in the absence of menstrual symptoms in non-pregnant women.

CASE PRESENTATION

A 47-year-old African-American woman with no significant medical history presented to the emergency department reporting bilateral leg swelling of 12 days duration. The leg swelling started as bilateral ankle oedema and progressed to involve both lower extremities as well as lower abdominal wall up to the level of the umbilicus. Swelling was associated with uncomfortable tension in the thighs and lower abdomen. The patient reported an episode of similar, though less severe, bilateral leg swelling 15 months prior to this presentation, at which time she had sought medical attention for a right leg laceration. She was treated symptomatically with ibuprofen after management of the laceration. No chest pain or shortness of breath, no recent travel history and no previous history significant of thromboembolic events, was reported.

Review of systems was positive for decreased urination, a bloating sensation and constipation; and negative for orthopnoea or paroxysmal nocturnal dyspnoea. There was no dysuria or haematuria reported.

The patient had regular periods every 30 days lasting about 3 days with no abnormal bleeding

reported. She did not remember having had a Papanicolaou test in the past 14 years. She denied smoking or drug use. She reported being sexually active with one partner and using condoms occasionally. She reported drinking alcohol occasionally. She was not taking any medication regularly.

The patient's vital signs showed blood pressure of 121/76 mmHg, heart rate of 70/min, respiratory rate of 15/min and oral temperature of 36.7°C; her oxygen saturation was 100% on room air.

Her physical examination showed +3 pitting oedema affecting both legs and thighs, though more on the right, with a well-healed laceration scar on the right leg. Her lower abdominal area was tense, with no evidence of ascitis or hepatosplenomegaly. Chest examination showed normal vesicular breathing bilaterally with no adventitious sounds. The rest of the examination including heart and neurological system was unremarkable.

INVESTIGATIONS

Brain natriuretic peptide (BNP) and chest X-ray excluded the possibility of heart failure (BNP was 29 pg/mL, reference normal range is <100 pg/mL). Initial laboratory investigations included a negative pregnancy test, normocytic anaemia with haemoglobin level of 9.5 (normal range 12.0–16.0 g/dL), mean corpuscular volume of 81.1 (normal range 80–100 fL), normal leucocyte count, an elevated creatinine level of 1.7 mg/dL (baseline creatinine is 0.9 mg/dL) and blood urea nitrogen (BUN) of 18 mg/dL. Urine analysis showed no evidence of infection. Bilateral lower limb venous Duplex was negative for thrombosis. However, study was limited secondary to the swelling. Subsequent CT of the abdomen and pelvis showed bilateral moderate hydronephrosis with grossly distended urinary bladder (figure 1). There were no obstructive ureteric stones. A bulky uterus was described (figure 2).

The Papanicolaou test showed no cervical pathology. Uterine biopsy showed evidence of leiomyoma.

DIFFERENTIAL DIAGNOSIS

Many diseases can present as bilateral lower extremity oedema; heart failure represents an important cause especially in patients with multiple cardiac risk factors. It is unusual for deep venous thrombosis to present as bilateral lower extremity oedema, though given that our patient's swelling was more prominent on the right, this possibility was excluded with negative venous duplex study. Bilateral involvement can be secondary to pelvic or abdominal masses that decrease the lymphatic drainage and result in gradual lower extremity oedema. Given the patient's elevated creatinine,

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Figure 1 CT of the abdomen/pelvis, without contrast, showing bilateral moderate hydronephrosis with grossly distended urinary bladder.

which resembled renal impingement and the findings of bulky uterus, a diagnosis of renal impairment secondary to postrenal cause in the form of uterine leiomyoma was established.

TREATMENT

In the emergency room, the patient had a Foley's catheter inserted, which drained 2 L of urine. Her pain was controlled with acetaminophen, avoiding non-steroidal anti-inflammatory

Figure 2 CT of the abdomen/pelvis, without contrast, showing a bulky uterus.

agents. Her creatinine showed improvement, from 1.7 mg/dL at presentation to 1.4 mg/dL on the second day, and it came down further, to 1.0 mg/dL, on the subsequent day. The patient was discharged with the Foley's catheter with a plan for outpatient bilateral urethral stent insertion and total hysterectomy with bilateral oophorectomy. The procedure was carried out and intraoperative findings were described as grossly enlarged uterus, irregular and tilted towards the left, with multiple pelvic adhesions.

OUTCOME AND FOLLOW-UP

The subsequent pathological specimen confirmed the diagnosis of uterine leiomyoma with no evidence of leiomyosarcoma. The patient was able to urinate naturally and her lower limb swelling showed great improvement. She was followed up in outpatient clinic and had complete resolution of oedema, and continued to have a normal kidney function test.

DISCUSSION

Uterine leiomyomas are the most common pelvic tumours in women.¹ The estimated cumulative incidence of tumours by age 50 is >80% for black women and nearly 70% for white women. The most common symptoms include: abnormal uterine bleeding, particularly heavy menstrual bleeding and pelvic or abdominal pressure.²⁻³ Uterine leiomyomas, by mechanical obstruction of the pelvic ureters, may cause renal impairment, with hydronephrosis and hydronephrosis.⁴⁻⁵ A previous study noted mechanical obstruction of ureters in 14.35% of patients with uterine fibroids.⁵ Most of these cases are recognised incidentally at ultrasonography. Rarely, a fibroid may cause acute retention of urine by kinking of the urethra.⁶ A previous case report of a pregnant woman presenting with renal impairment secondary to uterine leiomyoma has been published.⁷ Indeed, acute urinary retention secondary to a large fibroid was resolved after surgical intervention. Rare presentations should be considered, as the uterine leiomyoma is largely asymptomatic; these include polycythaemia,⁸ infertility,⁹ hypercalcaemia¹⁰ and hyperprolactinaemia.¹¹ Our case represents a rare presentation of uterine leiomyoma as the patient had clinical symptoms of renal failure in the setting of underlying obstruction.

Learning points

- ▶ Uterine leiomyomas can have a variety of presentations including, in advanced cases, renal failure/impairment, even in the absence of menstrual symptoms.
- ▶ Managing uterine leiomyomas presenting with obstructive symptoms via surgical intervention usually resolves the symptoms.
- ▶ Identifying patients at risk, keeping in mind that uterine leiomyoma is a largely asymptomatic disease, can help in diagnosis and treatment of this common pelvic tumour.

Contributors SAH took care of the patient while she was admitted and at follow-up, wrote the manuscript and performed the literature review; TSM and GB reviewed the manuscript and the related literature.

Competing interests None declared.

Patient consent Obtained.

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