CASE REPORT

An unusual presentation of a ruptured degenerative fibroid in a perimenopausal woman

Meei Jiun Seet, Sonali Chonkar, Manisha Mathur

Department of Obstetrics and Gynaecology, KK Women's and Children's Hospital, Singapore, Singapore

Correspondence to

Dr Manisha Mathur,
drmanishamathur@aol.com

Accepted 19 November 2014

SUMMARY

A 55-year-old woman in a perimenopausal state presented with severe suprapubic pain and fever. Physical examination revealed a tender pelvic mass measuring 24 weeks in size. Ultrasound of the pelvis and CT scan of the abdomen and pelvis showed a 12 cm mass arising from the posterior wall of the uterus with irregular margin inferiorly, raising suspicion of a ruptured mass. The patient was treated conservatively and discharged from the hospital with regular simple analgesia. She had an elective total hysterectomy bilateral salpingo-oophorectomy and frozen section the following week and histology revealed a benign leiomyoma with extensive necrosis. Moreover, intraoperatively, the fibroid was found to have ruptured its capsule. This case illustrates that a ruptured degeneration of uterine leiomyoma should be considered as one of the differential diagnoses for all women presenting with abdominal pain and a large fibroid mass regardless of their hormonal status or age.

BACKGROUND

Uterine fibroids are the most common benign uterine tumours. They are present in at least 40–50% of women older than 35 years of age. Degeneration of fibroid usually occurs due to loss of blood supply caused by its rapid growth associated with pregnancy or oral contraceptive use and, thus, the diagnosis of degenerating uterine fibroid in a non-pregnant woman is often difficult. This case is remarkable as degeneration of fibroid is extremely uncommon in a perimenopausal woman who is not on hormonal therapy, and a ruptured degenerative fibroid should always be considered in a large fibroid mass as its rapid growth can potentially rupture a vessel or its capsule, causing major haemorrhage.

CASE PRESENTATION

A 55-year-old woman with three previous normal vaginal deliveries presented with a few days' history of severe sharp suprapubic pain radiating down to both lower limbs. She had been experiencing irregular menses and her last menstrual period was 3 months prior. On examination, she was febrile with a temperature of 37.8°C. Other vital signs were within normal limits. Abdominal examination revealed a firm, round, tender pelvic mass measuring 24 weeks in size, which was deflected to the right. Bimanual examination showed positive cervical excitation and tenderness over the right fornix. Rectal examination was unremarkable.

INVESTIGATIONS

Ultrasound of the pelvis showed an intramural fibroid at the posterior wall of the uterus displacing the endometrium anteriorly and measuring 10.1×8.3×8.3 cm. Both ovaries were normal. A CT scan of the abdomen and pelvis performed to exclude a surgical cause showed a 7.3×10.0×12.0 cm mass arising from the posterior wall of the uterus with irregular margin inferiorly representing a fibroid with degeneration, infarction or, less likely, malignant changes and surrounding mesenteric inflammation (figure 1). There was no sign of appendicitis.

White blood cell count was $9.99 \times 10^9/L$, platelet count was $356 \times 10^9/L$ and C reactive protein was 118.1 mg/L. Urine pregnancy test was negative.

DIFFERENTIAL DIAGNOSIS

A perimenopausal woman presenting with a large fibroid mass raised the concern of leiomyosarcoma. Together with abdominal pain, differential diagnoses included torsion of a pedunculated fibroid, infarction or degeneration as well as a ruptured fibroid, as demonstrated by our patient. In this case, we also suspected concomitant acute appendicitis due to persistent raised body temperature and localised tenderness over the right iliac fossa with mild rebound tenderness.

TREATMENT

The patient was managed conservatively with analgesia and her symptoms improved. She was discharged and planned for an elective total hysterectomy bilateral salpingo-oophorectomy and frozen section 1 week later.

Surgery was performed with a Maylard incision under general anaesthesia. A 14-week size uterus with a 12 cm right-sided fundal fibroid, which had ruptured its capsule, was noted. The entire mass was encapsulated with severe adhesions involving small bowel, transverse colon and omentum. Both fallopian tubes and ovaries were normal. A specimen was sent for frozen section analysis, which revealed leiomyoma with extensive necrosis. A total hysterectomy and bilateral salpingo-oophorectomy was performed. A pelvic drain was inserted and estimated blood loss was 800 mL.

OUTCOME AND FOLLOW-UP

After the procedure, the patient developed post-operative ileus and was kept nil orally for 3 days. The abdominal drain was removed on the fifth postoperative day and she was discharged well on the sixth postoperative day.

CrossMark

To cite: Seet MJ, Chonkar S, Mathur M. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2014-207473

Figure 1 CT of the abdomen and pelvis showed a 7.3×10.0×12.0 cm mass arising from the posterior wall of the uterus with irregular margin inferiorly representing a fibroid with degeneration, infarction or, less likely, malignant changes and surrounding mesenteric inflammation.

Histopathological examination of the tissue samples sent intraoperatively showed an almost completely infarcted leiomyoma surrounded by fibrosis and myofibroblastic proliferation

Figure 2 Uterus, cervix, bilateral fallopian tubes and ovaries with a haemorrhagic mass protruding at the fundus measuring 9.5×8×5.9 cm.

Figure 3 Fibroadipose tissue with an area of necrosis excised from bowel surface attached to the above haemorrhagic mass.

extending from the myometrium to the adjacent adipose tissue (figures 2 and 3). There was no increase in mitotic activity and no abnormal mitotic figures present. The section of omentum showed acute and chronic inflammation with fibrosis and no metastatic malignancy.

DISCUSSION

Degeneration of uterine leiomyomas occurs when they enlarge and outgrow their blood supply. This is seen more commonly in pregnant women or women who are taking oral contraceptive pills.¹ The diagnosis of degenerating uterine leiomyoma in non-pregnant women is often difficult. The inflammation in the case of degeneration can cause abdominal tenderness, localised rebound tenderness on palpation, elevation of temperature and leucocytosis. All these signs and symptoms are non-specific and all possible causes of acute abdomen should be considered. In our case, a CT scan of the abdomen and pelvis was performed to exclude concomitant acute appendicitis. On rare occasions, a degenerating leiomyoma can rupture and result in intra-abdominal bleeding.²⁻⁴ Thus, a ruptured degenerative fibroid should also be considered as one of the differential diagnoses for all women presenting with acute abdominal pain and a large fibroid mass regardless of their hormonal status or age.

Preoperative diagnosis of degenerative leiomyomas is often difficult and commonly misinterpreted as complex adnexal cysts of ovarian origin.⁵ This is especially true with CT scans when degenerative fibroids are frequently indistinguishable from cystic ovarian masses.⁶ When women present with abdominal pain suspected to be originating from the gynaecological tract, ultrasound is often the investigation of choice as it is easily assessable and highly sensitive. In this case, both ovaries were clearly seen to be normal on ultrasonography and, thus, ovarian pathology was excluded. A CT scan was subsequently performed to exclude other non-gynaecological issues. Although MRI is preferred for demonstrating the character of a fibroid mass, it is not usually used as first-line imaging in an acute setting.⁷ As our patient was clinically stable and planned for a definitive surgery, MRI had a limited role.

In the event of intra-abdominal haemorrhage secondary to rupture of a degenerative fibroid, an emergency laparotomy should be performed. Any evidence of significant haemoperitoneum on radiological imaging and a deteriorating clinical condition should prompt immediate action. In stable patients, treatment options including an elective surgery at a later date or percutaneous embolisation of the uterine artery should be discussed. However, in perimenopausal or postmenopausal women, diagnosis of leiomyosarcoma should also be considered and treated accordingly with the involvement of a gynaecological oncologist.

Learning points

- ▶ Ruptured degeneration of fibroids should be considered as one of the differential diagnoses for all women presenting with acute abdominal pain and a large fibroid mass regardless of their hormonal status or age.
- ▶ Surgical intervention may need to be considered as first-line treatment in a potentially life-threatening case when a ruptured degeneration of fibroid continues to bleed intra-abdominally.
- ▶ When associated with a history of pain, irregular bleeding per vaginum or increase in the size of the fibroid in a perimenopausal or postmenopausal woman, a diagnosis of leiomyosarcoma should also be considered.
- ▶ When dealing with patients with a large fibroid or a fibroid that is rapidly increasing in size in a non-acute setting, imaging such as MRI of the pelvis should be performed and if leiomyosarcoma is suspected, a gynaecological oncologist should be involved in planning for surgery.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Rein MS, Barbieri RL, Friedman AJ. Progesterone: a critical role in the pathogenesis of uterine myomas. *Am J Obstet Gynecol* 1995;172(1 Pt 1):14–18.
- 2 Tan YL, Naidu A. Rare postpartum ruptured degenerated fibroid: a case report. *J Obstet Gynaecol Res* 2014;40:1423–5.
- 3 Takai H, Tani H, Matsushita H. Rupture of a degenerated uterine fibroid as a cause of acute abdomen: a case report. *J Reprod Med* 2013;58:72–4.
- 4 Batsu E, Akhan SE, Ozsurmeli M, *et al.* Acute hemorrhage related to spontaneous rupture of an uterine fibroid: a rare case report. *Eur J Gynaecol Oncol* 2013;34:271–2.
- 5 Kaushik C, Prasad A, Singh Y, *et al.* Case series: cystic degeneration in uterine leiomyomas. *Indian J Radiol Imaging* 2008;18:69–72.
- 6 Roche O, Chavan N, Aquilina J, *et al.* Radiological appearances of gynaecological emergencies. *Insights Imaging* 2012;3:265–75.
- 7 Wilde S, Scott-Barrett S. Radiological appearances of uterine fibroids. *Indian J Radiol Imaging* 2009;19:222–31.

Copyright 2014 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.

BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow