

Parasitic myoma: a rare presentation of a common disease

Mioma parasita: forma rara de apresentação de uma entidade comum

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Abstract

Parasitic myomas are a rare form of uterine leiomyomas. Distinction from other abdominal masses may be difficult, due to parasitic leiomyomas' variable anatomic locations and clinical manifestations.

We describe the case of a 45 years-old woman, presenting with abdominal pain and a large pelvic mass that turned out to be a parasitic myoma at surgical assessment.

Histological analysis confirmed the intraoperative suspicion.

We intend to bring awareness to the inclusion of this condition in the differential diagnosis of pelvic masses, especially in women with risk factors for parasitic myomas, such as previous surgery for uterine fibromyomatosis or concomitant uterine myomas.

Keywords: Parasitic myoma

INTRODUCTION

Uterine leiomyomas are the most common benign pelvic tumors in females¹, affecting 20-50% of reproductive aged women². Occasionally they can be found at extrauterine sites, through haematogenous dissemination, parasitic origin or independent growth from other muscular tissues^{3,4}.

Parasitic myomas, a rare form of uterine leiomyomas, can occur spontaneously or after a surgical intervention for uterine myomatosis. It is believed that spontaneous parasitic myomas result from pedunculated subserosal uterine myomas, which loose their uterine connection, acquiring new vascular supply from adjacent organs^{4,5}. Iatrogenic parasitic myomas emerge from extrauterine implantation and independent growth of fibroid fragments that are seeded during myoma manipulation or unconfined morcellation in a myomectomy or hysterectomy procedure^{2,5}. Laparoscopy apparently carries a greater risk compared to open surgery,

maybe because of a greater employment of morcellation techniques, use of power morcellators resulting in tiny fibroid fragments (easily unrecognised) and a more limited capacity to detected intra-abdominal myoma portions and to wash out the field^{2,6-8}.

Our understanding of this clinical entity is limited to a few case reports and small case series. However, over the last years, reports of iatrogenic parasitic myomas increased, due to the widespread of laparoscopic surgery¹, which resorts to morcellation techniques, believed to predispose to parasitic myoma formation^{2,4}. Consequently, it is our understating that clinics need to be more aware of this diagnostic possibility.

CASE REPORT

A 45-year-old female patient presented at the emergency room complaining of pelvic pain, lasting for 3 days. No fever, weight loss, abnormal vaginal discharge, urinary, gastrointestinal or other symptoms were present, with the exception of constipation. Her last menses was 14 days before and she had a history of

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chronic abnormal uterine bleeding due to uterine fibromyomatosis, associated with anemia, a condition already under routine hospital follow-up. She used condom plus spermicide for contraception. The patient's obstetrical history included one term vaginal delivery and one spontaneous miscarriage. Other than uterine myomas and an appendectomy many years ago, she denied any relevant diseases or previous surgeries; she was also not taking any medication.

At physical examination the patient was alert, oriented, hydrated, had normal vital signs and no pallor was present. Abdomen was soft but tender on deep palpation of the suprapubic region; guarding, rigidity, and rebound were all absent. Gynaecological exam revealed no vulvar, vaginal or cervical lesions and the vaginal discharge was normal, but the uterus was enlarged, irregular in shape and painful at mobilization during bimanual palpation.

Laboratory results documented: normocytic normochromic anemia (Hb=9.9 g/dL) and an elevated C-reactive protein (=18,3 mg/L for a normal reference value < 5 mg/L), without leucocytosis or neutrophilia; additional laboratory studies were normal, including serum electrolyte levels, liver and renal functions assessment and a negative urine pregnancy test.

No anomalies were identified in the abdominal x-ray.

Transvaginal ultrasound detected an enlarged



FIGURE 1. Transabdominal ultrasound image of the pelvic mass (at the 2nd day of hospital stay) – a slightly heterogeneous but mostly hypoechoic tumor is seen (arrow), measuring 84x58mm in this image, mildly irregular in shape, cephalad to the uterus (not shown); a connection to the uterus could not be identified and the mass showed scarce vascularization.

uterus, with a heterogeneous myometrial echotexture compatible with diffuse fibromyomatosis; the endometrium and adnexa were normal. With an abdominal probe a large pelvic mass was identified, that was previously missed during the vaginal approach. This mass, apparently originating from the uterine fundus, was 104 x 84 x 58 mm in size, with sonographic features of a subserosal and pedunculated uterine fibroleiomyoma (pedicle not seen), mildly irregular in shape and had absent vascularization on colour Doppler evaluation (Figure 1). These findings suggested a sub-torsion/torsion of a large uterine subserosal myoma. CA 125 blood levels were increased (=82,3 U/mL).

Taking into account the lack of clinical improvement with intravenous analgesia and sonographic impression of uterine myoma sub-torsion/torsion, an exploratory laparotomy was performed by a gynaecology surgical team that included a gynaecologic oncology surgeon. Intraoperative assessment found a 10 cm of diameter pelvic mass, attached to the omentum, sigmoid colon and right round ligament (Figure 2). Peritoneal fluid was collected for cytological analysis and adhesiolysis of the multiple dense adhesions that surrounded the tumour with the latter's consequent release and resection was performed (Figure 3). Extemporaneous examination of the resected tumour was consistent with a parasitic leiomyoma. The omentum portion attached to the mass was also excised and sent to histological examination. Uterus was multinodular

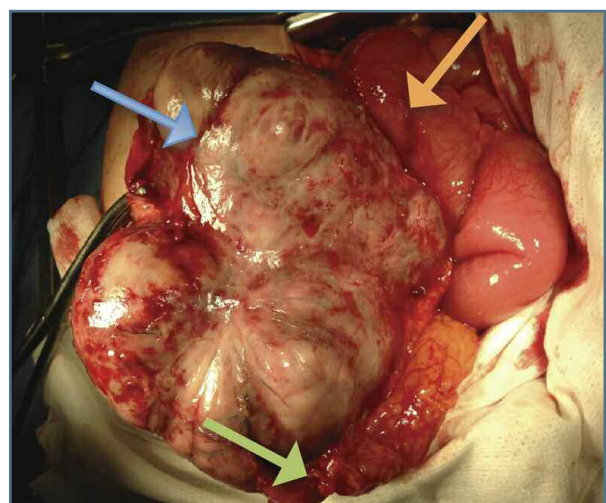


FIGURE 2. Macroscopic findings during exploratory laparotomy: a large pelvic mass was found (blue arrow), attached to the omentum (green arrow) and bowel (orange arrow)

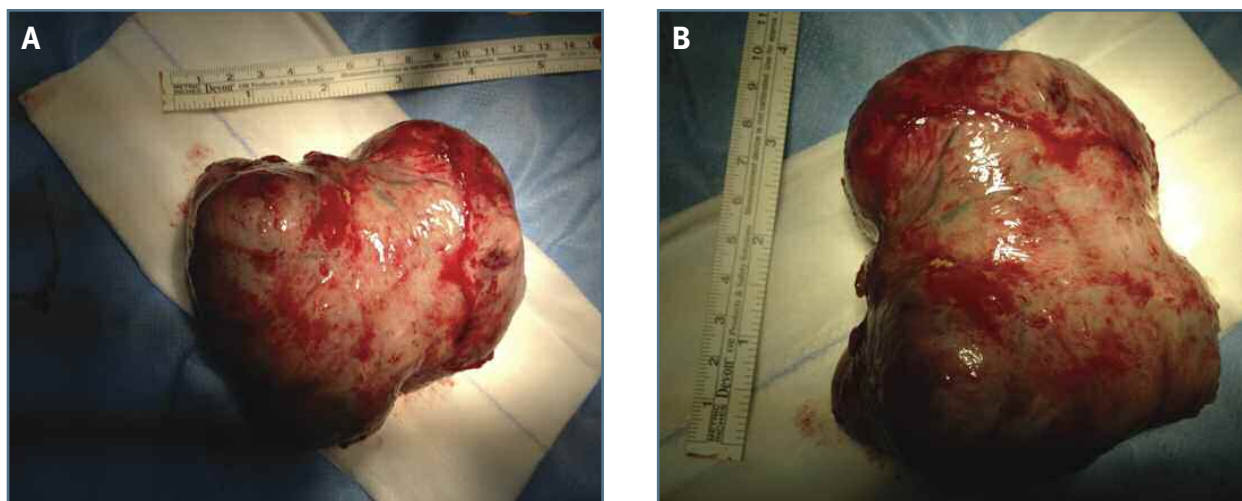


FIGURE 3A and 3B. Surgical specimen of the pelvic mass excised during laparotomy – the mass was red, with a lobulated shape and a moderately vascularized wall; its biggest diameter was 10 cm long.

but otherwise macroscopically normal. A total intrafascial hysterectomy and bilateral salpingo-oophorectomy was decided, according to the patient's pre-surgical wishes and the uncertainty about the tumor's nature, despite of the results of the extemporaneous examination. Surgery was uneventful.

Post-operative clinical evolution was favourable, with a remarkable improvement of pain symptoms. The patient was discharged 3 days after the surgery, clinically well. It was recommended that she kept taking oral iron supplementation daily and painkillers when necessary. At the post-surgical appointment, 8 weeks after, the patient was asymptomatic, with no morbidity to report.

Surgical specimen's gross examination showed a uterus measuring 8x5x7cm with multiple subserosal, intramural and submucosal myomas, their diameters ranging from 0,1 cm to 10,5 cm; the biggest one was multinodular, greyish in colour and separated from the hysterectomy specimen, corresponding to the large pelvic mass resected at the beginning of the procedure.

Microscopic analysis confirmed the presence of numerous benign uterine myomas, with areas of hyaline degeneration and the largest one with carneous degeneration; it also revealed: adenomyosis; endometrium with atrophic zones induced by external compression, in addition to secretory areas, where a polyp's base was identified; normal ovaries; fallopian tubes' congestion; omentum with vascular congestion, haemorrhage and a mild unspecific inflammatory reaction. Peritoneal fluid cytology was negative for malignancy.

DISCUSSION

Uterine myomas' diagnosis is usually straightforward. However, parasitic myomas pose a diagnostic challenge because they're rare, vary in location and presentation, and are difficult to distinguish from other pelvic masses.

Our patient had a previous diagnosis of uterine leiomyomas, the main risk factor for parasitic myomas, but had never had any uterine surgery. Spontaneous parasitic myomas, like the one depicted in our case, are more rare than iatrogenic. A pedunculated subserosal myoma can outgrow its uterine vascular support, suffer torsion or its stalk may become longer and thinner^{4,5,9}. All of these are possible mechanisms for myoma detachment from the uterus, leading to a wandering or migrating myoma^{4,5,9}. During this process the myoma can adhere to surrounding structures for vascular supply³⁻⁵ and by doing so, they become parasites of the organ(s) involved. Parasitic myomas can be found attached to the omentum, broad ligament, pelvic peritoneum, cul-de-sac, retroperitoneal connective tissue, gastrointestinal tract, common iliac artery, inferior mesenteric artery, or, rarely, at the upper abdomen^{3,5,10-12}. In our patient, the parasitic myoma seemed to be obtaining blood supply from the omentum.

Because parasitic myomas can be found in different anatomic sites, its clinical manifestations vary from: asymptomatic and incidentally identified in an imaging scan or surgery; to symptoms like pelvic pain (acute or chronic), mass sensation or, when bulky, complaints related to compression of neighbouring structures^{13,14}.

Our patient presented with acute pain, probably due to the carneous degeneration that the parasitic myoma suffered, revealed in the histopathological exam. Degeneration occurs when the parasitic myoma outgrows its new vascular supply and the most common types are hyaline, cystic, mucoid and carneous¹⁵. Carneous (also called red) degeneration is a subtype of haemorrhagic infarction of leiomyomas, characterised on gross pathology, by a red (haemorrhagic) appearance¹⁶; it is one of the causes of acute abdomen in myomas¹⁷.

Parasitic myoma's imaging appearance, behaviour (benign, hormone-dependent) and histology are similar to typical uterine leiomyomas, but, being separated from the uterus, they're often mistaken for other pelvic masses^{10,18}. Additionally, when degeneration or necrosis occurs, atypical, even malignancy-like appearances can emerge, further complicating diagnosis^{5,11}. Parasitic myoma's infarction can also explain its lack of vascularization on our patient's pre-surgical ultrasound¹⁷.

Differential diagnosis includes other pelvic or abdominal masses, such as: ovarian tumors, leiomyosarcomas, broad ligament cysts and lymphadenopathies³.

Patient's history and imaging techniques (pelvic ultrasound and magnetic resonance) are useful for an accurate diagnosis³. This condition must be suspected in patients with coexistent uterine myomas or a prior myomectomy/hysterectomy, especially if the approach was laparoscopic³. However, definite diagnosis is usually established after surgical excision¹⁵. In the case presented transvaginal ultrasound missed the large pelvic mass, only discovered with an abdominal probe and upper pelvis exploration. Even then, diagnostic uncertainty remained, between a pedunculated subserosal myoma and other pelvic masses (namely an adnexal tumor) and was only clarified during surgical exploration.

Surgery is indicated for symptomatic relief and to prevent the compromise of neighbouring vital structures; the approach depends on the intraoperative findings and the patient's future fertility wishes¹⁹.

In conclusion, parasitic myomas are rare, but part of the wide range of pelvic masses' differential diagnosis. They must be considered when its main risk factors are present: coexistent uterine fibromyomatosis and previous surgical treatment for myomas, especially if laparoscopic. Awareness to this condition is important because its incidence will likely increase in the laparoscopic area.

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