



Case Report

Massive hemoperitoneum resulting from spontaneous rupture of uterine leiomyoma

Abstract

Uterine leiomyomas are very common tumors found in women. Rupture of a uterine leiomyoma is an unusual source of hemoperitoneum. This is a case report of such. A 28-year-old woman presented to the emergency department with acute onset of abdominal pain after a bowel movement and who had a history of fibroids. The patient was stable and went for a formal ultrasound, which showed a large fibroid and free fluid in the peritoneum. She had a laparotomy, and an actively bleeding fibroid surface vein was found. The patient required transfusion of 2 U of packed red blood cells, and a myomectomy was performed, with an uneventful postoperative course. Because surgical intervention is the only definitive treatment, emergency physicians should be aware of this rare complication.

A 28-year-old nulliparous woman presents to the emergency department (ED) with acute lower abdominal pain shortly after a bowel movement. She denies trauma and vaginal bleeding, and has no urinary complaints. Her periods are regular and her LMP was 3 weeks ago. She is sexually active, but urine pregnancy test is negative in the department. She has never had any surgeries, and her medical history is significant only for fibroids.

Her triage vital signs were stable, and her physical exam was significant only for diffuse lower abdominal pain, without rebound or guarding. Speculum and bimanual examination revealed a mass consistent with a 20-week gestational uterus. Urinalysis showed trace hematuria without evidence of urinary tract infection. Initial hemoglobin was 10.4 g/dL. A pelvic ultrasound was performed for possible ovarian torsion, and a 12-cm uterine pedunculated fundal leiomyoma extending toward the right adnexa was noted (Fig. 1). Moderate free pelvic fluid extending into Morrison's pouch was also noted (Fig. 2). The right ovary was not identified, and concerns for ovarian torsion persisted.

Guarding and rebound were apparent on reexamination after the ultrasound. Gynecologic consult was obtained, and repeat hemoglobin was 10.0 g/dL. The patient was taken emergently to surgery. Laparotomy revealed a 14- to 16-week gestational-size fundal fibroid with numerous tortuous blood vessels across its

surface, one of which had active venous bleeding. Myomectomy was performed and hemostasis obtained via ligation of vessels. Approximately 2 L of hemoperitoneum was encountered, and the patient received 2 U of packed red blood cells. The patient had an unremarkable perioperative period and was discharged on postoperative day 3.

Uterine leiomyomas are common tumors found in women, and complications include menorrhagia, metrorrhagia, and pain secondary to degeneration. Spontaneous hemoperitoneum due to fibroid rupture, however, is a rare entity with less than 100 cases reported in the literature [1]. One review reports only 50 cases before 1961 and 6 additional cases by 1997 [2]. A second review cites 7 cases between 1994 and 2004 [3].

This patient's hemoperitoneum resulted from surface vein rupture of a large leiomyoma measuring 16 × 13 × 10 cm and weighing more than 1300 g. Leiomyoma size greater than 10 cm may be a risk factor for this to occur [4]. Rupture likely occurred 1 h before presentation, after a bowel movement, a mechanism previously described [2]. Venous congestion appears to be an independent risk factor for rupture [1,3,5]. Increased abdominal pressure while bearing down probably resulted in increased venous congestion and likely led to vessel rupture in this patient.

Diagnosis is aided and confirmed by abdominal imaging modalities: ultrasound, computed axial tomography scan,

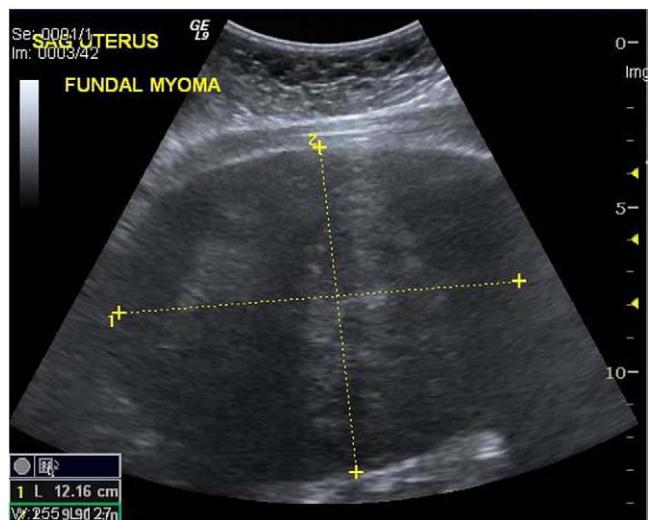


Fig. 1 Uterine leiomyoma.



Fig. 2 View of Morrison's pouch with hemoperitoneum; the liver is on the left and kidney on the right.

and magnetic resonance imaging. Ultrasound, although insensitive for small hemoperitoneum and nonspecific in diagnosing the source, is a useful modality and can be performed at the bedside of an unstable patient. Magnetic resonance imaging is highly accurate in evaluating leiomyoma size, number, location, and presence or extent of degeneration, but it requires a stable patient and may be difficult to perform in a timely fashion in the ED. Both computed axial tomography scan and magnetic resonance imaging can identify the source of hemoperitoneum [6]. Ultimately, ultrasound proved useful in caring for this patient.

Management is both surgical and supportive. Intravenous fluids and blood should be infused for significant blood loss, and gynecology should be consulted immediately. The

definitive treatment is surgical, requiring vessel repair and/or myomectomy. Although uncommon, this is an important diagnosis, highlighting the importance of serial abdominal examinations and the potential use of bedside ultrasound, and emergency physicians should be aware of this condition.

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doi:10.1016/j.jajem.2008.02.029

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