

CASE REPORT

Hemoperitoneum Secondary to Arterial Rupture of Subserosal Uterine Leiomyoma

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Abstract

Uterine leiomyomas (ULs) affect up to 80% of women during their reproductive years. Though relatively benign, they can have life-threatening complications. This case report presents a 50-year-old, postmenopausal female who presented with severe abdominal pain secondary to massive hemoperitoneum. Upon exploratory laparotomy, a large, pulsing artery was seen on the uterus, consistent with a ruptured subserosal uterine fibroid. This case offers unique insight into the presentation and management of this surgical emergency. (**International Journal of Biomedicine. 2017;7(3):254-256.**)

Key Words: uterine fibroid • menorrhagia • hemoperitoneum • emergency

Introduction

Uterine leiomyomas (ULs) are benign tumors of smooth muscle that affect up to 80% of women during their reproductive years. The prevalence of these tumors peaks in the perimenopausal years and declines in post-menopausal women.⁽¹⁾ ULs are often asymptomatic but can present with menorrhagia, pelvic pressure, heaviness, urinary urgency and frequency, or even constipation. The symptomatology depends inherently on the size and location of each tumor. Treatment for severely symptomatic patients is often with uterine artery embolization, laparoscopic myomectomy, or open myomectomy for younger patients desiring to preserve their fertility. However, total abdominal hysterectomy is regarded as completely curative. This case describes a 50-year-old woman who presented with severe abdominal pain and was discovered to have a massive hemoperitoneum secondary to a bleeding subserosal fibroid.

Case Report

A 50-year-old G2P1011 presented to the emergency department for severe, intractable, right-sided abdominal pain and vomiting since the morning. The pain was sharp, 10/10, and radiating to her right shoulder. She denied any fever,

chest pain, diarrhea, vaginal bleeding, hematochezia, and hematemesis. Her past medical history was significant only for fibroids with no past surgical history. She had a significant family history of cancer on her paternal side.

Her hemoglobin had been trending downwards, falling from 11.8 g/dL to 10.5 g/dL in 10 hours. In addition, her white blood cell count was elevated to 20.9 K/uL. All other labs were within normal limits. An abdominal CT scan revealed a large, complex, solid cyst with high attenuation—highly suggestive of ovarian malignancy. The mass was poorly delineated from the uterus, and extensive intraabdominal fluid collection was reported. The fluid was measured to be 59 Hounsfield units—consistent with intraabdominal hemorrhage. The patient was taken immediately to the OR for a diagnostic laparotomy.

Intraoperatively, three liters of blood were evacuated from the peritoneum. The uterine anatomy was grossly distorted (Figure 1) and a pulsing vessel on the uterine fundus was noted (Figure 2). A total abdominal hysterectomy and bilateral salpingo-oophorectomy were performed. The ovaries were grossly normal in size, shape, and appearance (Figure 3). The uterus measured 15×15×6 cm with the largest leiomyoma measuring 12×7 cm. Pathology of the specimen confirmed numerous subserosal leiomyomas with no abnormal pathology in the ovaries. The patient was transferred to the surgical intensive care unit for monitoring of hemodynamic stability. However, there were no acute events post-operatively. The remainder of the patient's hospital course was uneventful and the patient was safely discharged home.

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Fig. 1. Surgical specimen showing gross distortion of uterine anatomy.

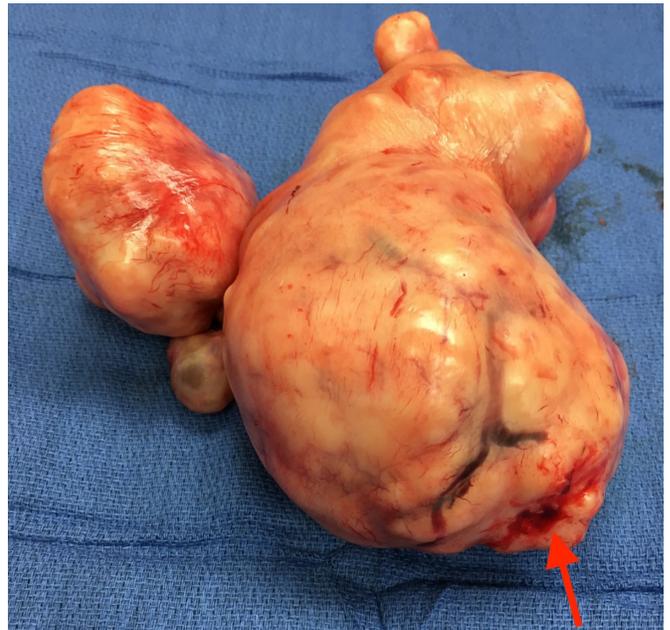


Fig. 2. Red arrow pointing to ruptured subserosal uterine fibroid with pulsing vessel.

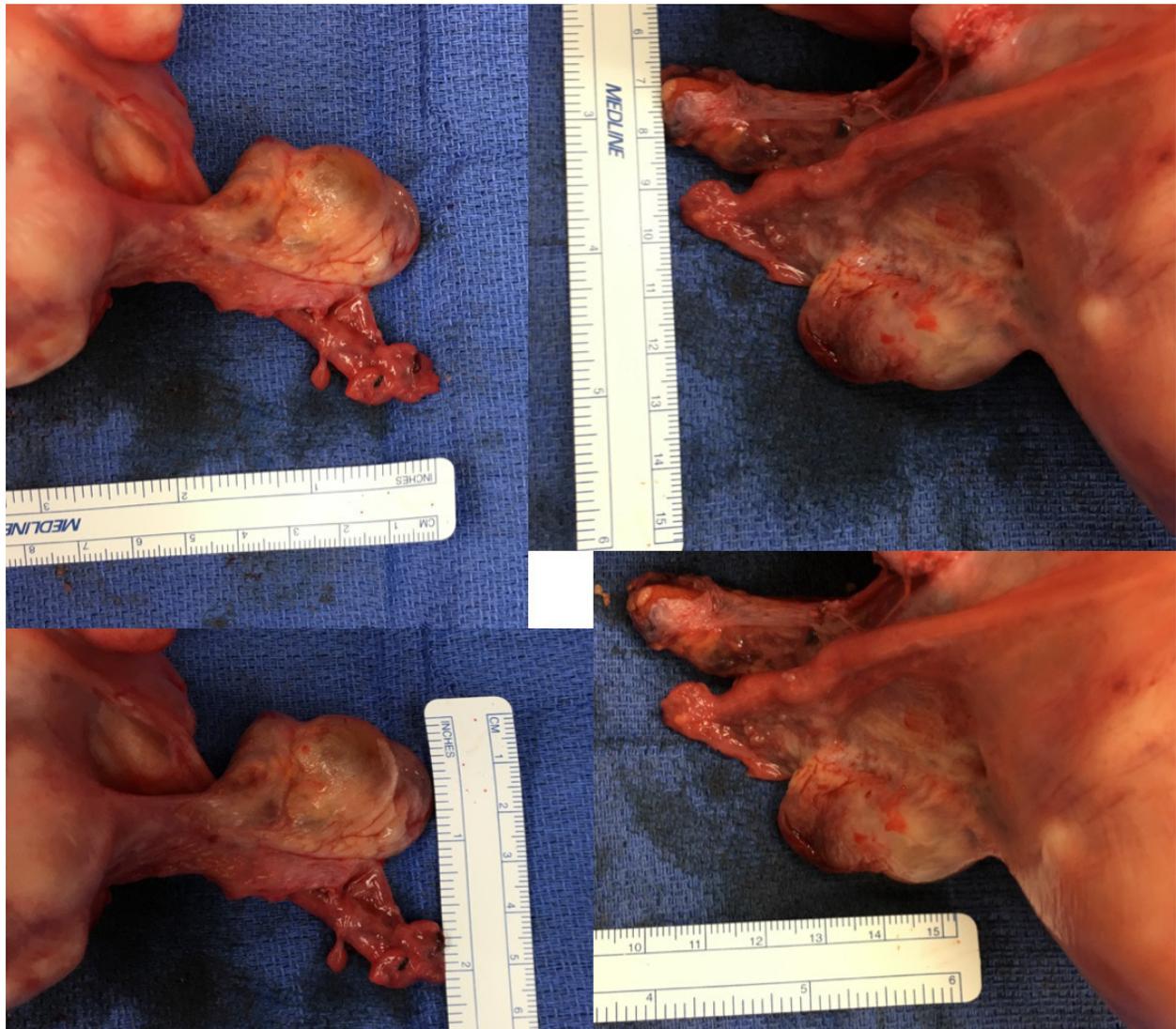


Fig. 3. Grossly normal appearing ovaries with no obvious deformity.

Discussion

This case offers unique insight into the potentially malignant presentation of a relatively benign condition. Thus far, hemoperitoneum secondary to a uterine leiomyoma has only been described anecdotally. We were only able to find 5 such previous case reports describing a rupture of subserosal fibroids with venous bleeding.⁽²⁻⁶⁾ Two other case reports were found that did not specify whether the source of the bleeding was venous or arterial.⁽⁷⁻⁹⁾ This dearth of examples demonstrates the rarity of this potentially morbid presentation.

Additionally, hemoperitoneum secondary to an arterial source is even rarer than to a venous source. To our knowledge, there have been only 2 such cases^(10,11) describing arterial rupture of a uterine fibroid. These few cases offer insight into the presentation and the need for emergency intervention. Following stabilization, the patient should be taken immediately to the operating room for exploratory laparotomy to identify the source of the bleeding and to proceed with a total abdominal hysterectomy.

An important differential to be mindful of in a perimenopausal female with extensive abdominal fluid collection is ovarian malignancy. Rupture of granulosa cell tumors has been estimated to be between 10% and 35% and is associated with presenting complaints of abdominal pain, distension, and hypotension consistent with hemoperitoneum.⁽¹²⁾ Additionally, rupture of fibrothecoma, clear cell tumors, and ovarian adenocarcinoma have been identified as causing hemoperitoneum.⁽¹³⁻¹⁵⁾ Thus, malignancy is a key differential to keep in mind in a patient presenting with signs and symptoms of intraabdominal hemorrhage.

Further research could offer insight into the presentation and the prevalence of hemoperitoneum secondary to uterine leiomyomata. Additionally, these investigations could shed light on the average age of presentation, analyze risk factors for the development of hemoperitoneum, and report on outcomes in patients with this presentation. Though malignancy is a key differential to keep in mind, it is possible that hemoperitoneum secondary to carcinoma is more likely in older, postmenopausal populations. Given this patient's CT scan and sudden presentation, intraabdominal hemorrhage secondary to carcinomatosis was the leading diagnosis. However, it is possible that the patient's age and lack of identifiable risk factors made leiomyomatosis a more relevant and thoughtful diagnosis.

The presentation of this case and the small, incidental occurrence of similar cases previously raises important questions regarding the morbidity and mortality of uterine fibroids. As a uterine leiomyoma can cause a life-threatening crisis and surgical emergency, further study into the epidemiology and postoperative outcomes is warranted.

Competing interests

The authors declare that they have no competing interests.

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