CEOG Clinical and Experimental Obstetrics & Gynecology

Case Report

Ruptured myometrial tumors as a cause of spontaneous hemoperitoneum

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Summary

Hemoperitoneum is a common cause of emergency surgery. Common gynecologic causes of hemoperitoneum include ruptured ectopic pregnancies, bleeding ovarian cysts, and very rarely, bleeding from uterine masses secondary to infarction and ulceration or ruptured superficial veins, secondary to increased intra-abdominal pressure. However, spontaneous bleeding of a uterine mass without any history of trauma, increased abdominal pressure, recent pregnancy, or menstruation is very rare. Herein the authors report two cases of acute abdomen secondary to spontaneous bleeding of a ruptured uterine smooth muscle tumor of unknown malignancy potential and endometrial stromal sarcoma. In the differential diagnosis of hemoperitoneum, uterine tumors should be considered as a potential site of the bleeding.

Key words: Hemoperitoneum; Ruptured ectopic pregnancies; Uterine tumors.

Introduction

Hemoperitoneum is a common cause of emergency surgery in gynecologic practice. Common gynecologic causes of hemoperitoneum include ruptured ectopic pregnancies, bleeding ovarian cysts, and rarely, bleeding from uterine masses [1].

Uterine smooth muscle tumors are the most common tumors of gynecologic organs, most of which are benign monoclonal tumors and usually asymptomatic. Their symptoms include menorrhagia, infertility, fetal loss, pelvic pain and pressure, polycythemia, ascites, impingement, and related complications. However, in some very rare clinical situations, both benign and malignant uterine masses may bleed and cause hemoperitoneum secondary to infarction and ulceration or ruptured superficial veins secondary to increased intra-abdominal pressure [2].

Herein the authors report two cases of acute abdomen secondary to bleeding of a ruptured uterine smooth muscle tumor of unknown malignancy potential (STUMP) and endometrial stromal sarcoma (ESS).

Case Report

Case 1

A 50-year-old patient was admitted to the emergency clinic with acute diffuse abdominal pain. There was no relevant history and her onset of last menstruation was ten days prior. Physical examination revealed abdominal guarding, rebound, pain with cervical movements, and the uterus was myomatous with an 18-week gestational size. On transvaginal ultrasonography and MRI, no abnormal finding was observed in both adnexa and originating from uterine fundus, and continuing to the right adnexal area a 98×78×113-mm sized heterogenous mass containing cystic and necrotic areas with mild contrast enhancement was observed (Figure 1a). There was also free fluid in the pelvis and upper abdomen. Endometrium was regular with 8.2 mm in thickness. Her coagulation parameters and tumor markers were within the normal ranges. Vital signs of the patient were stable. Emergency laparatomy was performed. Large amount of defibrinated blood was aspirated. A subserous degenerated myoma originating from upper right-anterior part of the uterine fundus and extending to the right adnexa was ruptured and bleeding from its anterior surface. Myoma was excised and frozen section analysis of the myoma was benign then the uterus was sutured appropriately. The patient was then discharged with no complication on her second post-operative day. The definitive pathologic diagnosis of the mass was STUMP.

Macroscopic finings on the pathological examination were: 9×9×8-cm sized solid soft mass containing multiple serous cysts, the largest of which was 2 cm. Degenerative changes were bleeding, cystic degeneration, multifocal hyaline necrosis, and the mass was composed of epithelioid and spindle shaped cells, with mild to moderate cellularity exhibiting mild cellular atypia. Immunohistochemistry showed negative staining with pancreatin and diffuse positive staining with smooth muscle actin and Ki-67 score was 2-3%. Myxoid and diffuse epithelioid differentiation was also observed. Then total hysterectomy was performed. After total abdominal hysterectomy, definitive pathological examination confirmed the diagnosis of STUMP.

Case 2

A premenopausal 47-year-old gravidity 0 patient was admitted to the emergency clinic with a complaint of severe abdominal pain. Vital signs of the patient were stable and physical examina-

Published: 15 April 2020

Clin. Exp. Obstet. Gynecol. - ISSN: 0390-6663
XLVII, n. 2, 2020
doi: 10.31083/j.ceog.2020.02.5005

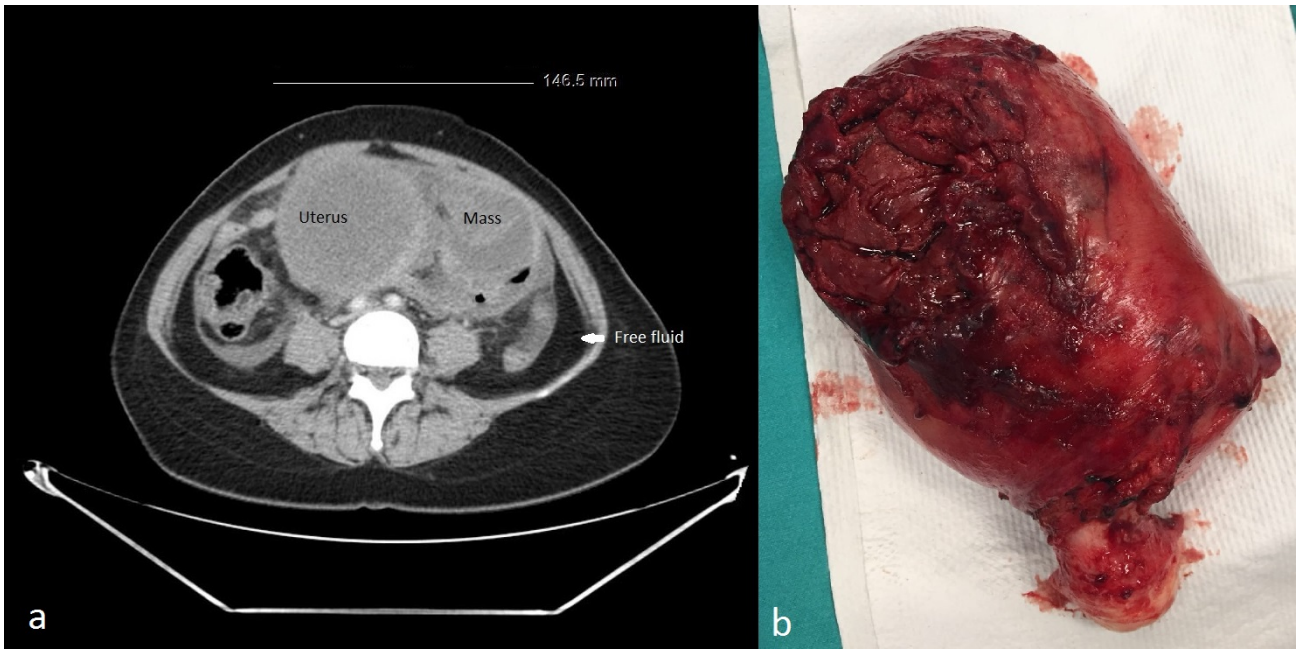

Figure 1. — a) MRI of Case 1 showing a 98×78×113-mm sized heterogenous mass originating from uterine fundus and continuing to the right adnexal area with mild contrast enhancement and diagnosed as STUMP on pathological examination. b) Surgical specimen of Case 2 showing a high-grade ESS which is bleeding from its vegetative surface.

tion revealed a 24-week gestational size uterus, large amount of intra-abdominal fluid and a clinical picture of acute abdomen. Her β-hCG was negative and CA 125 was 51 IU/mL. Her hemoglobin and leucocytes counts deteriorated rapidly and emergency laparatomy was performed. After aspiration of 500-600 ml defibrinated blood, about 100×130-mm sized uterine mass with adhesions to intestinal segments, sigmoid mesocolon, anterior and lateral abdominal wall was observed. The mass was bleeding from its vegetative surface and partially was shed into the abdominal cavity. The omentum was pale and inflamed. After abdominal washing, optimal debulking of the mass together with uterus and both adnexa, omentum, and all involved intestinal segments was performed. Peritoneum of the anterior and lateral abdominal walls were excised at their adhesions. Sigmoid mesocolon was shaved and systemic pelvic and para-aortic lymphadenectomy was performed. The patient was discharged on her eighth postoperative day without any complication. Her pathologic examination revealed high-grade ESS (Figure 1b). Abdominal washing and excised peritoneum of anterior abdominal wall were involved, whereas no infiltration of the other excised tissues including omentum, both adnexa, intestinal segments, and tissue shaved from the sigmoid mesocolon was observed. Her pelvic and para-aortic lymph nodes were also negative for tumor infiltration. She received chemotherapy after the operation and her follow up is still ongoing.

Discussion

Both benign and malignant uterine masses may usually bleed into the endometrial cavity. However, if they are located near the serosa, they may bleed into the abdomen through their serosal surfaces. It has been postulated that rupture of an artery or vein secondary to increased abdominal pressure can cause passive congestion and rupture of the superficial veins. Menstruation and pregnancy can also cause venous congestion and rupture [2].

Trauma associated with pelvic fractures causing avulsion of a pedunculated leiomyoma, direct contact injury from the promontory of the sacrum, and essential hypertension as the causative factors have also been claimed [2-4]. Degeneration of a leiomyoma usually during mid-pregnancy and the puerperium may lead to necrosis and spontaneous perforation and bleeding into the abdomen-like tumor necrosis of a malignancy as seen in Case 2. Among malignant tumors of the uterus, leiomyosarcoma is the most common, followed by ESS, undifferentiated uterine sarcoma, adenosarcoma, and other rarer soft tissue sarcoma subtypes [2, 5].

Spontaneous bleeding of a uterine mass without any history of trauma, increased abdominal pressure, recent pregnancy, or menstruation as in Case 1 is very rare. Saidi *et al.* suggested that as the tumor pushes itself out of the myometrial confines, the force of tension created on the surface may tear a superficial vein and cause spontaneous bleeding [6]. Although very rare, intra-abdominal bleeding of uterine masses is a serious condition which may result in mortality if undiagnosed in the evaluation of the hemoperitoneum [7]. In cases when the common causes of hemoperitoneum (such as perforated peptic ulcer, ectopic pregnancy, ovarian cysts, etc.) are ruled out, the uterus should be evaluated and uterine

masses (especially those larger than 10 cm) should be kept in mind as the possible source of the intra-abdominal bleeding.

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