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CASE REPORT

Intratumor Hemorrhage in Pedunculated Subserosal Leiomyoma Mimic Intraabdominal Bleeding: A case report

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ABSTRACT

A 43-year-old para 2-0-0-2 woman with a history of three cesarean sections and tubal sterilization presented with chronic pelvic pain and heavy menstrual bleeding due to a large subserous myoma (16 x 9 cm). Two months after the initial presentation, she was admitted to the emergency department with acute abdominal pain and dyspnea. Physical examination revealed a distended abdomen, generalized tenderness, and a 24-week-sized mass. Laboratory tests indicated anemia with a hemoglobin level of 8.8 g/dl. Transabdominal ultrasound and contrast-enhanced computed tomography (CT) identified significant free fluid in the abdominal cavity and a large exophytic uterine mass, suspected to be a pedunculated subserous myoma. Exploratory laparotomy confirmed 500 mL of intraperitoneal serosanguinous fluid and a pedunculated subserous myoma measuring 27 cm, with evidence of intra-tumor hemorrhage. A total abdominal hysterectomy with bilateral salpingectomy was performed, with six units of packed red blood cells transfused. Pathological examination confirmed a subserous leiomyoma with hemorrhage and congestion. This case illustrated the rare complication of intra-tumor hemorrhage with intraperitoneal fluid reaction, typically presenting as acute abdominal pain. Emergency surgery was required for diagnosis and management, especially in the absence of trauma.

Keywords: intraabdominal bleeding, subserous leiomyoma, intratumor hemorrhage.

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Introduction

Leiomyomas (known as myomas or uterine fibroids) are common benign tumor in reproductive aged women. Leiomyomas are clonal neoplasms of the uterus and have both smooth muscle and fibroblast components[1,2]. The clinical presentation of leiomyoma is variable, ranging from asymptomatic patient to those with recurrent, progressive symptoms that affect a women's daily activities[3]. The most common symptoms are menorrhagia (heavy menstrual bleeding) and dysmenorrhea (menstrual pain)[4].

The International Federation of Gynaecology and Obstetrics (FIGO) classification system for uterine leiomyomas classifies leiomyomas based on location. The FIGO scale ranges from 0 to 8, according to their location in the uterus[5]. Infrequently, leiomyomas cause acute complications. The complications include thromboembolism, acute torsion of subserosal pedunculated leiomyomata, acute urinary retention and renal failure, acute pain caused by red degeneration during pregnancy, acute vaginal or intraperitoneal hemorrhage[6].

However, the subserous leiomyoma may cause a very rare complication. Acute torsion of subserous leiomyoma lead to ischemic gangrene and peritonitis is very rare[7]. Intra-leiomyoma hemorrhage and intratumor bleeding are extremely rare[8,9]. This case report described a case of acute abdominal pain and intraperitoneal fluid resulting from intratumor hemorrhage of pedunculated subserous leiomyoma.

Case report

A 43-year-old, para 2-0-0-2 woman, known case of huge intramural and subserosal myoma (FIGO type 6) (size 16 x 9 cm) came to the present hospital with chronic pelvic pain and heavy menstrual bleeding 6 months earlier. She had a regular 25-30 days' cycle and dysmenorrhea. She was an unremarkable past history except history of 3 repeat cesarean sections with tubal sterilization. Laboratory investigations revealed a hemoglobin level was 10.6 g/dl, a mean corpuscular volume (MCV) 82.1 fl, and a white blood cells 13.10 x 103/ul. She was advised to undergo hysterectomy.

About 2 months later, she presented to the emergency room with acute abdominal pain and dyspnea for 6 hours. Her menstrual period started 2 days ago. She denied trauma and other respiratory symptoms.

On physical examination, she was afebrile, a pulse rate was 90 beats per minute, blood pressure was 154/64 mmHg, and respiratory rate was 22 beats per minute. The abdominal examination revealed a distended abdomen with generalized tenderness, guarding and rebound. A 24-week sized mass was palpated. Laboratory investigation highlighted anemia (hemoglobin level 8.8 g/dl, MCV 72.2 fl, white blood cells 22.63 x 103/ul). Transabdominal ultrasonography disclosed free fluid in pelvic cavity, hepatorenal and splenorenal pouch and a 15 x 13 cm fundal subserosal leiomyoma. Transvaginal ultrasound revealed normal both ovaries. Emergency computed tomography (CT) was performed for further evaluation. A contrast CT whole abdomen showed large non-enhancing exophytic mass arising from uterine fundus, possibly pedunculated subserous myoma, moderate amount of free fluid at perihepatic, perisplenic, bilateral paracolic gutter and pelvic regions but no evidence of other internal organ injury (Fig. 1).

Based on clinical, laboratory and imaging findings, the provisional diagnosis was intraperitoneal bleeding originating from the uterine myoma or a torsion of subserous myoma. Therefore, the patient was performed an exploratory laparotomy. The findings revealed 500-ml intraperitoneal serosanguinous fluid and a large rubbery reddish dark brown pedunculated subserous myoma at fundus, which measured approximately 27 cm in maximum diameter, with no identifiable bleeding site (Fig. 2). Total abdominal hysterectomy with bilateral salpingectomy was performed. Total six units of packed red blood cell transfused. Estimated blood loss from the operation was about 600 ml. The patient had an unremarkable postoperative course and was discharged on postoperative day 4.

A pathological examination revealed a 22.0 x16.0 x11.0 cm subserous mass at the fundus. Microscopic examination showed spindle cells with hemorrhage and congestion.

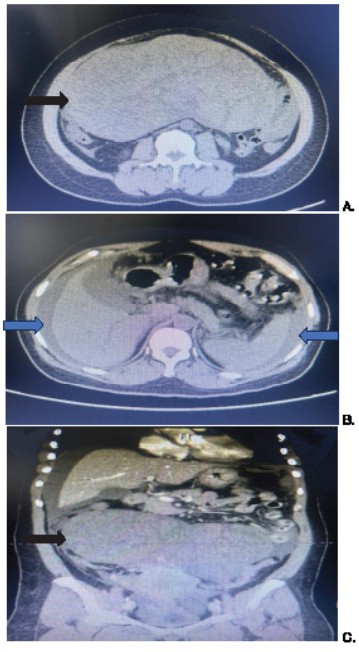

Fig. 1. Contrast computed tomography whole abdomen. (A, C) large non-enhancing exophytic mass arising from uterine fundus, possibly pedunculated subserous myoma : black arrow. (B) moderate amount of free fluid : blue arrow shows perihepatic and perisplenic free fluid

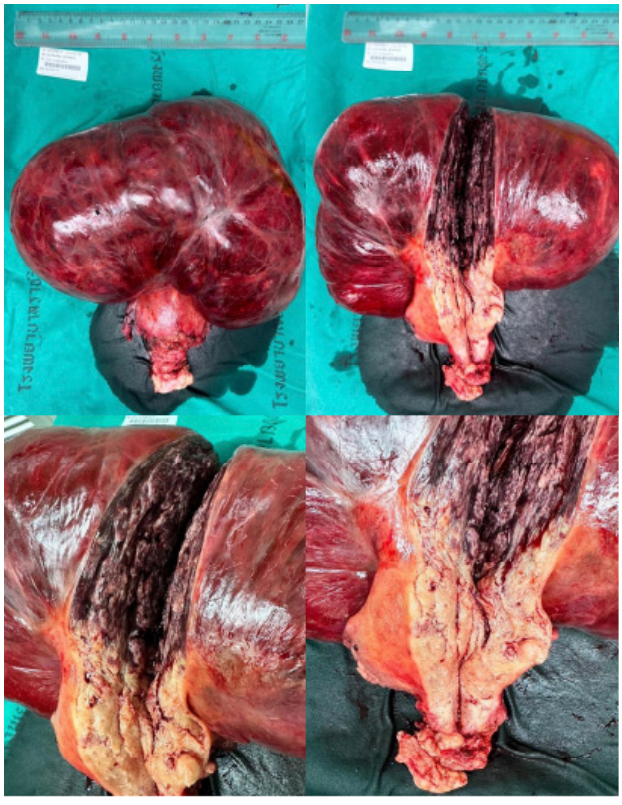

Fig. 2. Gross findings, large rubbery reddish dark brown peduculated subserous myoma at fundus.

Discussion

The complications of subserous leiomyoma include torsion or rupture, red degeneration and intratumor hemorrhage are extremely rare. The majority presents as acute abdominal pain[6]. There are a few case reports of intraperitoneal hemorrhage form myoma without trauma such as bleeding from spontaneous rupture of myoma(10), ruptured vessels overlying a uterine myoma[11-13].

The occurrence of intraperitoneal fluid or hemorrhage suggests an abdominal organ injury such as perforation or ischemia. While definite diagnosis of intraperitoneal bleeding associated with myoma is unlikely. The usual preoperative differential diagnosis may be shifted the focus to twisted adnexa or other internal organ injury. The imaging, ultrasound and CT are diagnostic tools for myoma and its suspected complications, but it is difficult to detect the site of bleeding by imaging alone.

In the present case, patient visited the emergency room with the chief complaint of acute abdominal pain. Intraperitoneal ascites was identified, and the transfusion of blood was needed due to anemia suspected from intraabdominal bleeding. This presenting symptom was similar to the presenting symptoms from the previous report by Akahira et al[12] and Mattison et al[13]. These findings were often misdiagnosed as internal organs ruptured. An

emergency laparotomy was performed. The finding showed an edematous pedunculated submucous myoma with intra-leiomyoma hemorrhage which was similar to the previous report from Manopunya et al[8] and Koide et al[14], but these two case reports occurred during postpartum period. And systematic review from Lim et al[15] indicated that intraperitoneal fluid associated with uterine myoma was causes by the rupture of superficial blood vessels (60.8%), ruptured fibroids (27.25%), and fibroid avulsion (8%). Another study[16], however, has shown that intraperitoneal fluid is not always due to bleeding but may result from the release of inflammatory cytokines and growth factor, which increase vascular permeability. This creates an imbalance in arterial flow, venous drainage and direct pressure of the fibroid mass on lymphatic vessels, consistent with our findings, where no cause of bleeding was identified.

Intratumor hemorrhage with peritoneal fluid can cause serious and emergent conditions. In most cases that occur during pregnancy period, it is believed that the size of uterine myoma increases due to rising estrogen levels and increased blood flow. However, it is extremely rare for this to occur in non-pregnancy women. Contributing factors implicated in this complication may include increased abdominal pressure or torsion, which can result in the compression of feeding vascular flow, leading to myoma swelling and edematous changes. In this case, we hypothesized that venous return from the tumor had been compressed during partial torsion of myoma[8,14].

Surgical exploration and removal of a pedunculated subserosal myoma are typically performed when complications related to myoma are suspected. Nevertheless, based on the serious consequences of intraperitoneal hemorrhage in huge tumors and the possibility of intratumor hemorrhage, as observed in our case, a hysterectomy was deemed necessary, especially as fertility preservation was not a concern[6,8,17].

Conclusion

Intratumor hemorrhage of myoma in non-pregnancy woman is extremely rare complication. However, the presenting symptoms may mimic with intraabdominal bleeding. Thus, it needs prompt intervention, so it is important to keep in mind the possibility of subserous myoma with complication.

Potential conflicts of interest

The authors declare no conflicts of interest.

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