Difficult diagnosis of hemoperitoneum in a patient with a pelvic mass of large size

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ABSTRACT

INTRODUCTION: Intraperitoneal hemorrhage caused by a uterine myoma is rare (Tajima et al., 2015).
PRESENTATION OF CASE: A 47-year-old woman was admitted to the emergency room for worsening abdominal pain. Ultrasound revealed fluid filled almost the entire abdominal cavity as well as the presence of a mass of about 20 cm near the uterus. It was not easy to understand the nature of the fluid by ultrasound. It appeared to be ascites with a tumoral pelvic neoformation. On TC there was extravasation of contrast material, but the bleeding site was not identifiable. An emergency operation was performed. Bleeding was from a subserosalmyoma on the anterior wall of the uterus; myoma measured approximately 20 cm in maximum diameter. Pathological assessment of the resected specimen revealed bleeding from ruptured tortuous veins on a serosal-type uterine myoma.
DISCUSSION: Spontaneous rupture of a vein or an artery overlaying a myoma has been documented in English literature on the subject, although it is extremely rare (Tajima et al., 2015).
CONCLUSION: The differential diagnosis between a rupture of ascites and hemoperitoneum is sometimes not easy. Ultrasound is a helpful instrument in expert hands to make a diagnosis of hemoperitoneum. The aid of other diagnostic methods as TC help the clinician to arrive at the correct diagnosis quickly.

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1. Introduction

Acute abdomen comprises a number of emergencies, but they should be differentiated between surgical and medical emergencies. Some abdominal emergencies can mimic acute gastroenteritis, but the prevalence of gastrointestinal symptoms in acute gynecological emergencies is uncertain [2]. In a gynecological setting, hemoperitoneum is usually a result of an ectopic pregnancy, a ruptured corpus luteum, or adnexal torsion [3–5]. As a cause of hemoperitoneum, spontaneous rupture of a vein or an artery overlaying a myoma has been documented in English literature on the subject, although it is extremely rare [6–16]. Even if cases reported in non-English language publications are included, there have been fewer than 100 documented cases to date [11]. In the differential diagnosis of intraperitoneal hemorrhage, rupture of a vessel overlaying a myoma should be considered. The diagnosis is often delayed until the time of operation [14]. In the absence of diagnostic certainty, proper risk assessment and the successive and timely intervention are essential in facing a life-threatening situation [17].

2. Case report

A 47-year-old woman, with 3 previous pregnancies, visited our hospital “A.R.N.A.S. Garibaldi Nesima” of Catania with abdominal pain and palpable lower abdominal mass. Ultrasound showed a solid mass of 15.7 × 12 cm near and posterior the uterus with peripheric vascularization; in the pelvic cavity, in the perisplenic and peripectic areas, there was a modest amount of anechoic free fluid. Regular ovaries were identified. Her medical history shows no problem with her menstrual period. On examination, the patient was stable, with a normal heart rate of 70 beats/minute, blood pressure of 120/75 mmHg, temperature of 36.6 °C, SO2 100%.

Physical examination revealed negative findings, except for the presence of mild tenderness without rebound pain in the lower abdomen. Laboratory tests on admission indicated relatively minor abnormalities, considering the severity of her condition: hemoglobin (Hb), 12.3 g/dL; Red Blood Cell Count (RBC) 4.17 × 10^{12}/µL; platelets (Plt), 226 × 10^{3}/µL; White Blood Cell Count (WBC) 12.20 × 10^{3}/µL; aspartate transaminase (AST), 13 UI/L; alanine aminotransferase (ALT), 11 UI/L. The sensitive urineβ-human chorionic gonadotropin test was negative.

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As with blood was first suspected. During hospitalization, the patient complained of worsening abdominal pain. Follow-up transabdominal ultrasonography revealed hyperechoic fluid filling almost the entire abdominal cavity, suggestive of ascites with an extremely large hemorrhage. We examined the origin of the bleeding using contrast-enhanced computed tomography (CT). This revealed an extremely large hemorrhage with extravasation of contrast material. Although the exact site of bleeding was not identified, vessels in the pelvic cavity were considered potential candidates. After 24 h of observation: Hb, 10.2 g/dL; RBC 3.12 × 10^{12}/μL; Pt, 60 × 10^4/μL; WBC 10.2 × 10^3/μL. ALT, 15 U/L; ALAT, 11 U/L.

Suspecting a gynecological cause, an emergency operation was planned, to stabilize the patient and make an exact diagnosis. Emergency median laparotomy was performed under general anesthesia because the mass was solid. On reaching the abdominal cavity, there was evidence of an extremely large hemorrhage, with an estimated blood loss of over 1500 mL. A bleeding site was identified on the surface of a uterine myoma that has maximum diameter of about 18 cm; This bleeding derived from rupture of a superficial and dilated vein. Other abdominal organs were essentially normal. This was followed by drainage of hemoperitoneum and hysterec- tomy with ovarian conservation. Pathological examination showed ruptured tortuous veins on a serosal-type uterine myoma, approximately 8 mm in diameter, situated on the surface of a fibromyoma without degeneration.

3. Discussion

Intraperitoneal hemorrhage associated with a uterine fibro- myoma is rare, in spite of the fact that uterine myomas are one of the most frequently encountered tumors [16]. Well-known acute complications of myomas include torsion of a subserosal pedunculated myoma, urinary retention, venous thromboembolism, and hemorrhage due to degeneration of a myoma [18]. A large hemorrhage as a result of spontaneous rupture of a vessel overlying a myoma is rare [11]. Several factors have been postulated as causes of spontaneous rupture of a vein or an artery overlying a myoma. One of the probable causes of such a venous rupture is increased venous pressure, as occurs during menstruation, when straining to pass stool, or when lifting heavy weights [8]. Alternatively, increased abdominal pressure may cause passive venous congestion, and result in the rupture of a superficial vein [11]. Regarding venous rupture, the size of the myoma appears not to be a direct risk factor [7]. In contrast, in the case of an arterial rupture [11], a large myoma might overstretch the surface artery, resulting in rupture. In addition, it is suspected that increased arterial pressure of a surface artery due to increased abdominal pressure could lead to rupture of the artery. With regard to the present case, we speculate that an increase in blood pressure due to an unknown cause may have played a part in the rupture. Imaging modalities, including ultrasound and CT, may help confirm the differential diagnosis; however, as demonstrated in our case, imaging is unable to detect the site of bleeding [14]. Making an exact diagnosis is often delayed until surgery is performed.

4. Conclusion

The differential diagnosis between ascites and hemoperitoneum is sometimes not easy. Ultrasound is a helpful instrument in expert hands to make a diagnosis of hemoperitoneum, but in rare situations where even clinical parameters are stable, it is indeed difficult to take a decision. The aid of other diagnostic methods as TC help the clinician to arrive at the correct diagnosis quickly. In conclusion, massive hemoperitoneum secondary to the spontaneous rupture of a vessel overlying a myoma is rare. It should, however, be kept in mind when reviewing a female patient with an acute abdomen or a hypovolemic shock, especially in a patient with either known or radiologically apparent myomas. While it is a rare event, it may be life-threatening, and needs prompt surgical intervention to stabilize the patient and to establish the diagnosis [1].

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