Case Report

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Hemoperitoneum from spontaneous rupture of corpus luteal cyst: a case report and literature review

Abstract

Hemoperitoneum resulting from various gynecological emergencies can be life threatening and ruptured corpus luteal cyst is one of the causes. Here we are reporting a case of 25yrs women with history acute pain abdomen on 19th day of her mentstrual cycle. Ultrasound showed collection in pelvic cavity mainly around right adnexa. After few hours of observation she was taken for laparotomy because of tense and tender abdomen. Intraoperative there was hemoperitoneum of around 500 cc with ruptured corpus luteal cyst of right ovary. Ruptured corpus luteum cyst should be kept in differential diagnosis of acute abdomen in women of reproductive age group especially in secretory phase. Timely diagnosis and management can save patient life.

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Introduction

In women of reproductive age group acute pelvic pain is frequent gynecological cause of emergency. Various differential diagnoses including non gynecological cases should be kept in mind while assessing the case of acute pelvic pain. Hemoperitoneum resulting from various gynecological emergencies can be life threatening and ruptured corpus luteal cyst is one of the causes.

Case report

A 25 yrs old P2L2 women came to casuality with history of acute pain abdomen since 1 day. She was referred from some periphery hospital where she was admitted for 1 day and kept on conservative management. The ultrasound report showed complex collection in pelvic cavity around 300cc. in right adnexa and small amount of collection in left adnexa. Her vitals were stable with pulse of 78per min. and blood pressure was 100/60mm of Hg. Her abdomen was soft, non tender and non tense. On per vaginal examination uterus was of normal size, anteverted, cervical motion tenderness was present, bilateral fornices were clear and non tender. She presented on 19th day of her menstrual cycle with her previous cycle was regular. There was no history of any medication or contraceptive use. After 10hrs of observation and conservative management, her abdomen was tense, tender and girth increased. Ultrasound was done and showed bulky right ovary (4.9×3.2cm) with no vascularity suggestive of torsion and mild free fluid in pelvic cavity. The patient was taken for emergency laparotomy in view of ovarian torsion. Intraoperative there was hemoperitoneum of around 500cc with ruptured corpus luteal cyst of right ovary (Figure 1). Right ovarian cystectomy with ovarian reconstruction was done. Tissue was sent for histopathological examination and showed ovarian tissue with areas of hemorrhage.

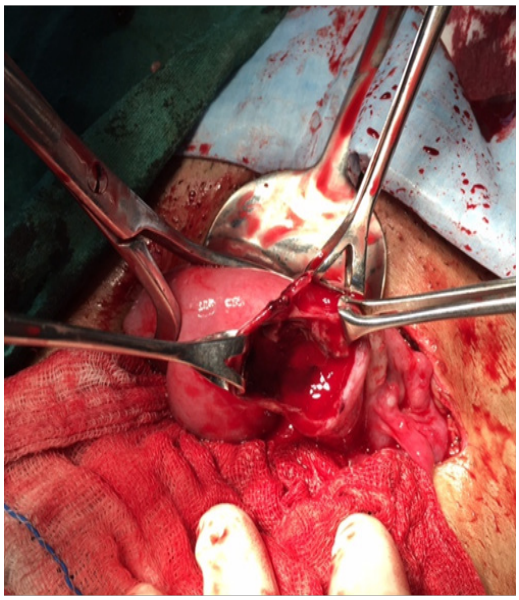

Figure 1 Rupture corpus luteum cyst of right ovary.

Discussion

Ectopic pregnancy and ruptured corpus luteal cyst are the most common gynecological causes of spontaneous hemoperitoneum in women of childbearing age. Other rare causes are uterine rupture, endometriosis, and ruptured hydropyosalpinx.[1] Corpus luteum is a thick walled cystic structure that is prone to internal haemorrhage, and sometimes peritoneal rupture, with presentation ranging from no symptoms to symptoms mimicking an acute abdomen. Each month, a mature ovarian follicle ruptures, releasing an ovum so the process of fertilization can begin. Corpus luteum cyst-wall rupture is a rare complication that occurs most frequently in women in their reproductive age but it is relatively uncommon in early adolescence. Occasionally, these follicles may bleed into the ovary, causing cortical stretch and pain, or rupture. A corpus luteum cyst may also bleed subsequent to ovulation or in early pregnancy. As blood accumulates in the peritoneal cavity, abdominal pain and signs of intravascular volume depletion may arise. The etiology of this increased bleeding is unknown, although abdominal trauma and anticoagulation treatments may increase the risk.[2] The diagnosis of ruptured corpus luteal cyst is based on a high historical suspicion (the patient generally is in the luteal phase of the ovarian cycle), clinical features, and laboratory tests. Patient may be asymptomatic or may have severe abdominal pain, peritoneal irritation or delayed menstrual cycle if concomitant with pregnancy. Vital signs are usually within normal range. Physical findings can range from mild unilateral low abdominal tenderness to those of an acute abdomen with severe tenderness, guarding, and peritoneal signs.[3] On review of literature rupture of right corpus luteum cyst is more common because of differences in ovarian venous architecture that causes higher intraluminal pressure on right side and also because of cushioning of left ovary by rectosigmoid colon.[3] Various imaging modalities play an important role in diagnosing the ruptured corpus luteum cyst. Ultrasound is usually the first imaging modality due to its high sensitivity and fast and easy access, but it can be difficult to localize the site of the disease and bleeding.[4–6] Sonography may reveal a complex cyst, with a rim of increased echogenicity surrounding the cystic component in the adnexal area, associated with free hypoechoic fluid in the peritoneal cavity (hemoperitoneum). Free hypoechoic fluid may contain focal collections of higher echogenicity (e.g., clotted blood) in the pelvis.[5,7] Doppler ultrasound may demonstrate the vascularized wall.[5,8] On CT examination, corpus luteum usually appears like a well-circumscribed unilocular adnexal lesion, rarely bilocular. The cyst walls appear slightly thickened (<3mm) and show a characteristic inhomogeneous contrast enhancement after administration of contrast medium due to increased vascularity. The approach of treatment of corpus luteum hemorrhage may be surgical or conservative. In either case, the target is preserving ovarian function as well as at eliminating the source of bleeding. Conservative approach is for hemodynamically stable patient with minimal amount of free fluid and hemoglobin values that keep being constant over 4–6 hours of monitoring.[9] Laparoscopy or laparotomy in cases of unstable vitals to be done followed by cystectomy, luteotomy or wedge resection. It also provides tissue for histopathology.

Conclusion

Ruptured corpus luteum cyst should be kept in differential diagnosis of acute abdomen in women of reproductive age group especially in secretory phase. Timely diagnosis and management can save patient life.

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None.

Conflict of interest

The author declares no conflict of interest.

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