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Ruptured Corpus Luteum Causing Massive Haemoperitoneum: A Case Report

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Abstract: Acute pelvic pain in a patient with positive Urine pregnancy test and absence of an intra uterine gestational sac prompts the diagnosis of an ectopic pregnancy in most cases. A corpus luteum cyst rupture mimics ectopic pregnancy and the probability of misdiagnosis is high. Here we present a case of ruptured corpus luteal cyst causing massive haemoperitoneum. A 24 years old G3P2 woman with 2 months of amennorhoea came to our emergency department with complaint of acute pain abdomen since two hours. Clinical findings and investigations were consistent with the diagnosis of an ectopic pregnancy. Surgical intervention was done and it was found to be a ruptured corpus luteal haemorrhagic cyst with massive haemoperitoneum. Spontaneous hemoperitoneum is a rare and potentially life-threatening condition that is due to non-traumatic etiology. Gynecological emergencies that present like this in women of childbearing age are ectopic pregnancy, ruptured corpus luteal cyst, uterine rupture, endometriosis, and ruptured hydropyosalpinx. Hence, all causes of acute abdomen should be ruled out for better management of the patient.
Keywords: ectopic pregnancy, corpus luteum, haemoperitoenum.

INTRODUCTION

Acute pelvic pain in a patient with positive urine pregnancy test and absence of an intra uterine gestational sac prompts the diagnosis of an ectopic pregnancy in most cases. But a clinician should always rule out other differential diagnosis too. Differentiation between normal early pregnancy events and early pregnancy complications is a challenging task. A corpus luteum cyst rupture mimics ectopic pregnancy and the probability of misdiagnosis is high. Haemorrhagic corpus luteum cyst causing spontaneous massive haemoperitoneum is a rare but potentially life threatening complication with only a few cases reported. Here we present a case of ruptured corpus luteal cyst causing massive haemoperitoneum that was misdiagnosed as ectopic pregnancy.

CASE PRESENTATION

A 24 years old G_3P_2 woman with 2 months of amennorhoea came to our emergency department with complaint of acute pain abdomen since two hours. She had previous two caesarean sections. Her LMP was 19/11/17 and there was history of sexual contact. Her Urine Pregnancy Test was positive on 26/1/18. She had regular cycles previously with average flow and no dysmenorrhoea. The abdominal pain was sudden in onset, diffuse and was not relieved by anti spasmodics. She was a non-smoker and did not give any history suggestive of Pelvic Inflammatory Disease before. On her examination, her general physical examination was unremarkable but for the finding of pallor with a pulse of 90 beats per minute and a Blood Pressure of 100/60 mm of Hg. Her abdominal examination revealed mild distension without any palpable mass. There were no signs of peritoneal irritation. Her per vaginal examination revealed a uterus of normal size which was anteverted and anteflexed with right sided fornix fullness and tenderness. The left fornix was free. Her transvaginal scan for positive UPT on 26/1/18 showed a complex mass with peripheral vascularity in right adnexa medial to the right ovary with significant probe tenderness, and free fluid in the abdominal cavity. A small intrauterine Gestational sac was seen. Her serum beta hCG levels were positive and showed a value of 3183 mIU/ml. A provisional diagnosis of ruptured right adnexal heterotopic pregnancy was made. Her Haemoglobin was 8 g/dl, with normal White blood Cells and platelet count. A decision to perform laparoscopy was made. Due to multiple adhesions and massive haemoperitoneum, it was converted into a laparotomy. Around 1000cc of blood was suctioned out with presence of clots. Uterus and bilateral adnexa were identified and both fallopian tubes along with left ovary were found to be intact. There was a ruptured cyst in the right ovary with active sites of bleeding. It was suspected to be a ruptured ovarian ectopic pregnancy. Figure 1 depicts the same. Ovarian wedge resection and suturing of the right ovary was done conserving as much ovarian tissue as possible. The sample was sent for histopathological examination. It was reported to be

a haemorrhagic corpus luteal cyst contrary to our diagnosis of a ruptured right ovarian ectopic pregnancy. Suction evacuation was done for the intra uterine pregnancy as patient had failure of contraception. Post-operative period was uneventful. Patient was discharged on day 7 of her stay.

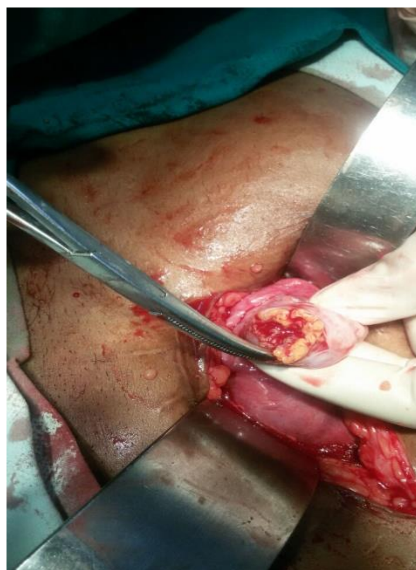

Fig-1: An image showing the ruptured ovarian tissue

DISCUSSION

Spontaneous hemoperitoneum is a rare and potentially life-threatening condition that is due to collection of blood within the peritoneal cavity due to non-traumatic etiology [1]. Gynecological emergencies that present like this in women of childbearing age are ectopic pregnancy, ruptured corpus luteal cyst, uterine rupture, endometriosis, and ruptured hydropyosalpinx [2]. Corpus luteum is a dynamic endocrine gland that is found in the ovary. It has a role in menstrual cycle regulation and early pregnancy. It regresses if the pregnancy does not occur or after the first trimester of pregnancy and maturation of placenta. It grows to a maximum diameter of 25–40 mm during the luteal phase and the growth is associated with an increase in blood flow. Since it is a thin-walled structure, it is prone to haemorrhage, which is usually self-limited but rarely can lead to massive haemoperitoneum. Due to nonspecific clinical presentation and sonographic appearance, patients are often misdiagnosed. The sonographic appearance of a ruptured corpus luteal cyst is based on the size of the lesion, intensity of bleeding and time interval between the scan and hemorrhagic event. It might show a well defined lesion in the ovary with minimal haemorrhage to a haemoperitoneum without cyst wall. On the basis of the sonographic appearance, it can be confused with ectopic pregnancy, adnexal torsion, neoplasm, and pelvic inflammatory disease[3]. Other modalities that can assist in the diagnosis of ruptured corpus luteal cyst are MRI and CT. Even though MRI has high soft tissue contrast capability, due to the high cost associated with it and prolonged durations in getting the final report, it is not a desired investigation in acute settings. On CT examination, the corpus luteum is a well-circumscribed unilocular adnexal lesion, and on using contrast, it shows characteristic inhomogenous enhancement due to the increased vascularity associated with it. Serum beta hCG is also a valuable marker to differentiate between corpus luteal cyst and ectopic pregnancy. A finding of ruptured corpus luteal cyst may be indicative of an intra uterine pregnancy. Hence, even with a positive urine pregnancy test, the rupture of corpus luteal cyst should be considered a possibility, and all other causes of acute abdomen should be ruled out.

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