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How to cite this article:
Dudani S, Kaur C, Kalhan
S. Primary Ovarian
Pregnancy - A Rare Case
Report. *Rec Adv Path Lab
Med* 2016; 2(1): 15-17.

ISSN: 2454-8642

Primary Ovarian Pregnancy - A Rare Case Report

Abstract

We report the rare case of a 27-year-old female who presented to the emergency department with severe pain in the lower abdomen. She gave a history of a spontaneous pregnancy of 5 weeks gestation with a history of irregular spotting on and off. The total leukocyte count was 25,000/cmm and β -human chorionic gonadotropin level was 984.7 IU/mL. Ultrasound showed an adnexal mass with hemoperitoneum. An ovarian wedge resection was done. She made good postoperative recovery and was discharged on the third postoperative day. Histology confirmed a ruptured ovarian ectopic pregnancy. Ovarian ectopic pregnancy is a rare condition and is associated with the use of assisted reproductive techniques. This case is unusual as it was a spontaneous pregnancy with no history of use of any assisted reproductive techniques.

Keywords: Spontaneous primary ovarian pregnancy, hemoperitoneum.

Introduction

Ovarian pregnancy is a rare condition as it comprises of only about 0.15% of all pregnancies and 1-3% of ectopic gestations. It is responsible for 10% of maternal deaths in the first trimester.¹ The risk is increased with the use of assisted reproductive techniques.

Since the diagnosis may be completely missed or may present as a surgical emergency, a high index of clinical suspicion is needed to diagnose this condition. We report a case of a ruptured ovarian pregnancy in a young primigravida with no known risk factors.

Case Report

A 27-year-old primigravida with 5 weeks amenorrhea and irregular spotting off and on was admitted with chief complaints of sudden severe lower abdominal pain and hypotension. She had a spontaneous pregnancy and there was no history of any in vitro fertilization (IVF) procedure done. Abdominal examination revealed guarding, rigidity and distension. An ultrasound scan done revealed an adnexal mass with gross hemoperitoneum. The total leukocyte count on admission was 25,000/cmm with 80% of cells being neutrophils. Serum β -HCG level was 984.7 IU/mL. An exploratory laparotomy with D&C done revealed the presence of clots and fresh blood in the peritoneal cavity. Both the fallopian tubes and Rt. ovary were normal.

The Lt. ovary was mildly enlarged with a crater which was bleeding on its surface. No definite gestational sac was seen. There were no adhesions in the peritoneal cavity, nor any evidence of endometriosis or pelvic inflammatory disease. An ovarian wedge resection was done. Endometrial tissue obtained via D & C was also sent for histopathological examination, which revealed a secretory endometrium. The ovarian stroma was hemorrhagic, necrotic and showed the presence of chorionic villi embedded in it (Fig.1). Our case fulfilled all the four criteria formulated in 1878, by Spiegelberg, for the correct diagnosis of ovarian pregnancy.^{1,2}

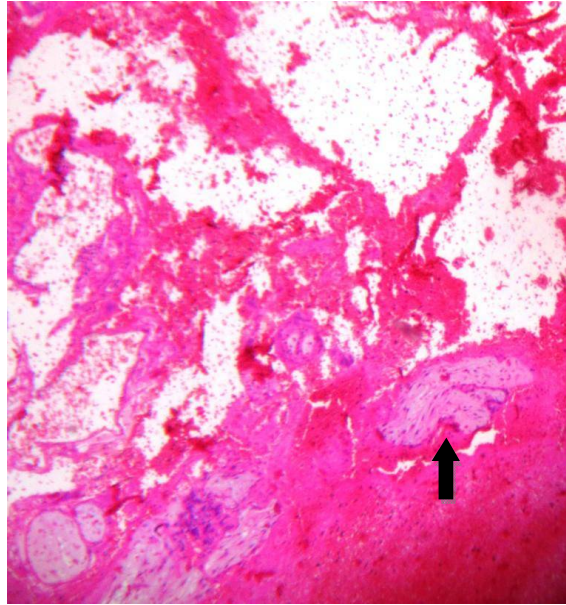


Figure 1.Section showing hemorrhagic, necrotic ovarian stroma with presence of embedded chorionic villi. (arrow). H &E 400x

Discussion

Though primary ovarian pregnancy is rare, its incidence has been increasing in the last 50 years due to increased use of infertility treatments like intrauterine insemination (IUI), in vitro fertilization and embryo transfer. Risk factors include increasing age, use of ovulation induction agents, intrauterine devices pelvic inflammatory disease and endometriosis.^{2,3} The true incidence is likely to be underestimated as nearly 74% are undiagnosed with many conceptuses undergoing death and spontaneous involution.⁴

Though it is believed that impaired fertility is more often associated with a tubal ectopic pregnancy, Grimes and coworkers have reported infertility or reproductive system pathology in more than 50% patients of a total of 24 cases of ovarian pregnancy⁴ whereas other authors have reported ovarian pregnancy in fertile patients.⁵ The cause of ovarian pregnancy remains obscure and different hypotheses like interference in the release of ovum from ruptured follicle, malfunction of the tubes and inflammatory thickening of tunica albuginea have been postulated. However, it is thought to be secondary to reflux of fertilized oocyte back to ovary.⁶ In our case, the patient did not report the use of any assisted reproductive techniques.

Almost 90% of patients present acutely with abdominal pain and circulatory collapse which may or may not be accompanied by vaginal bleeding. These symptoms may mimic a ruptured tubal gestation preoperatively or a ruptured corpus luteal or hemorrhagic ovarian cyst

intraoperatively. There have been reports of patients presenting with very mild pain and subtle clinical findings. Pelvic examination may reveal a palpable adnexal mass in 60% of cases. Accurate preoperative diagnosis of a single- as well as a twin-ovarian pregnancy has been reported by a transvaginal ultrasound scan.^{7,8} Although most ovarian pregnancies rupture by the 40th gestational day, there have been reports of these progressing into the third trimester and even to live births.⁹

Patients who are hemodynamically stable can be managed conservatively with methotrexate¹⁰ but an urgent laparotomy with ovarian cystectomy or wedge resection is warranted for a ruptured ovarian pregnancy.

Conclusion

Ovarian pregnancy still remains a clinical diagnostic challenge. A high index of clinical suspicion is required in an era of increased IVF procedures to accurately diagnose this condition.

Conflict of Interest: None

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Date of Submission: 8th Feb. 2016

Date of Acceptance: 25th Mar 2016