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CASE REPORT

Successful Management of a Ruptured Ovarian Pregnancy at 11 Weeks of Gestation : A Case Report

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Abstract

Ovarian pregnancy, an uncommon type of non-tubal ectopic pregnancy, typically results in rupture before the completion of the first trimester. The utilisation of intrauterine devices (IUDs) is a significant risk factor for this condition. Ovarian ectopic pregnancies, constituting 0.5% to 3.5% of all ectopic pregnancies, can pose a serious threat to life due to the potential for severe haemorrhaging upon rupture. This case involves a 38-year-old woman in her third pregnancy with a history of two live births at 11 weeks gestation who presented with abdominal pain. The diagnosis of ectopic pregnancy was established, and intra-operative and histopathological assessments confirmed it as an ovarian pregnancy. The patient underwent treatment with an ipsilateral salpingo-oophorectomy and a contralateral salpingectomy.

Key Words

Ovarian Pregnancy, Ruptured Ectopic Pregnancy, Salpingo-opherectomy, Salpingectomy

Introduction

Ovarian pregnancy, a rare type of ectopic pregnancy, occurs in approximately 0.5% to 1% of all ectopic gestations, equating to 1 in 7000 to 40,000 live births.[1] Detecting ovarian pregnancy before surgery poses a challenge. [2] The diagnosis is complicated by its resemblance to ruptured ovarian corpus luteum in conjunction with tubal pregnancy abortion. [3] While historical literature only associated intrauterine device (IUD) use as a risk factor, recent studies suggest an increased incidence of infertility and assisted reproductive techniques, contrary to the earlier understanding that salpingitis and infertility were not implicated. [4] Advancements such as transvaginal ultrasound, radioimmunoassay for human chorionic gonadotropin, and laparoscopy have improved the likelihood of an early diagnosis and enabled more conservative surgical approaches.[2]

Case Report

A 38-year-old woman, G3P2L2, experienced abdominal pain during her 11th week of pregnancy, based on her reported last menstrual period. She had two previous normal vaginal deliveries, with her children being 17 and 14. She had been using a contraceptive device for 7 years, which was removed 8 months ago due to spotting and abdominal pain. Her medical, surgical, and family histories were unremarkable. Her physical examination revealed severe dehydration, pallor, a pulse rate of 132/min, and a blood pressure of 90/60 mmHg.

The abdominal examination revealed tenderness, rigidity, and guarding, while the pelvic examination revealed a retroverted uterus and fullness in both fornices.

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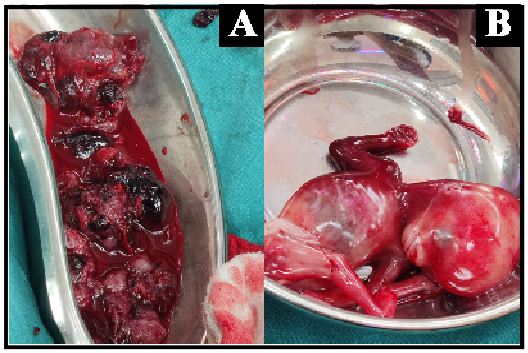

Fig 1: Products of conception removed intraoperatively (A) Ruptured ovarian tissue along with placental bits and blood clots (B) Magnified image of non-viable fetus of 11 weeks

Fig 2: Intraoperative image of right ruptured ovarian ectopic pregnancy (held) A ruptured right ovarian ectopic pregnancy with active bleeding was observed intraoperatively.

An ultrasound revealed an 11-week foetus in the right adnexal region, with free fluid in the pelvis, hepatorenal pouch, and peri-splenic region. No intrauterine gestational sac was found, indicating a ruptured ectopic pregnancy. Preoperative laboratory tests showed a haemoglobin of .6 g/dl, a total leukocyte count of 21,800/mm^3, a prothrombin time of 24 seconds, and a βHCG value of 84375 mIU/mL.

The patient was diagnosed with a ruptured ectopic pregnancy after a clinical examination and ultrasound. Following resuscitation, the patient underwent laparotomy, performed under general anaesthesia, with consent from the attendant. Two units of packed red blood cells (PRBC) and fresh frozen plasma (FFP) were prepared in advance.

Upon opening the abdominal cavity, approximately 1200 ml of blood and blood clots weighing 280 grams were removed. The surgical procedure involved the extraction of a non-viable foetus and placental tissue from the right adnexal region [*Fig 1*]. Notably, a ruptured right ovarian ectopic pregnancy with active bleeding was observed during the surgery [*Fig 2*].

The uterus, left ovary, and both fallopian tubes were undamaged. A salpingo-oophorectomy was performed on the right side, while a salpingectomy was carried out on the left side, taking into account the patient's obstetric history and age. Following the surgery, she was monitored in the obstetric ICU for three days, receiving a total of 4 units of PRBC and 4 units of FFP throughout her treatment. Histopathological examination of the samples confirmed the diagnosis of an ovarian ectopic pregnancy [*Fig 3*]. Subsequent to the surgery, the β-HCG levels gradually decreased, and she was discharged in a stable condition nine days after the procedure.

Discussion

The frequency of ovarian pregnancy is believed to have risen from 1 in 40,000 pregnancies in 1950 to more recent estimates of 1 in 3,179–7,000 pregnancies. [2] Factors associated with ovarian pregnancy include IUD use, assisted reproductive techniques, concurrent endometriosis, pelvic adhesions, and intrauterine surgery. IUDs may affect tubal motility, potentially facilitating embryo implantation. Ovarian pregnancies can be intrafollicular or extrafollicular, with intrafollicular types involving oocytes remaining within follicles during ovulation and fertilisation within follicles and extrafollicular types involving zygote implants on the ovarian surface.[3]

Ovarian pregnancy presents similarly to ruptured tubal pregnancy, leading to confusion with conditions like hemorrhagic corpus luteum, chocolate cyst, or tubal ectopic pregnancy. [5] The majority of cases involve a ruptured ectopic presentation, often leading to circulatory collapse, making the preoperative identification of ovarian ectopics through sonography challenging. [4] Frequently, it is clinically and sonographically misdiagnosed as a ruptured tubal ectopic pregnancy, corpus luteum cyst, hemorrhagic cyst, or chocolate cyst of the ovary. Distinguishing an ovarian pregnancy from a hemorrhagic ovarian cyst during surgery is even more intricate. [1] Typically, the initial diagnosis occurs during surgery, with the definitive diagnosis relying on histopathology and the fulfilment of the four Spiegelberg criteria, which establish that the pregnancy is confined to the ovary and does not extend to the tube.[5]

Ovarian ectopic pregnancy can be effectively treated through systemic methotrexate (MTX) administration,

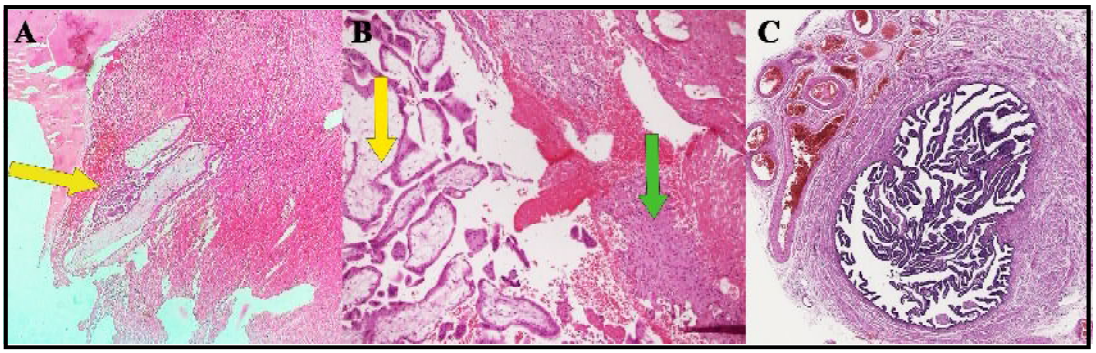

Fig 3: Histological image of ovary and fallopian tube A : Yellow arrow showing chorionic villi embedded within haemorrhagic ovarian stroma B : Yellow arrow showing chorionicvilli ; Green arrow shows corpus luteum C: Fallopian tube showed no remarkable pathology

employing either single or multiple doses. An alternative, successful approach involves the direct injection of MTX into the ovarian ectopic pregnancy using transvaginal or laparoscopic methods. While drug treatment is feasible for patients with stable vital signs, it must be closely monitored.[3] Treatment options encompass oophorectomy, cystectomy, and wedge resection, with procedures performed through either laparotomy or laparoscopy.[2] Laparoscopy is the standard for managing stable patients with an ovarian ectopic pregnancy, aiming to resect the pregnancy while preserving the ovary for future fertility. In emergency situations or areas with limited medical facilities, laparotomy is a suitable alternative.[3]

Advancements in ultrasound expertise and equipment, particularly employing a vaginal probe, enable the preoperative identification of ovarian pregnancy.[5] Early scanning and diagnosis aid in the implementation of more conservative treatment methods, aiming to preserve the ovary.[2]

Conclusion

Ovarian pregnancy is a rare but increasing occurrence due to infertility and assisted reproductive techniques. Ultrasonography can identify unruptured cases, but distinguishing ovarian from other tubal gestations in a ruptured state is challenging. Diagnosis relies on intraoperative findings, as most patients present with a ruptured sac in a collapsed state. Despite advancements in medical treatment, surgical therapy remains the primary approach. Routine ultrasound scans upon positive pregnancy tests enable earlier and more conservative treatment options for ectopic pregnancies.

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References

1. Bouab M, Touimi AB, Jalal M, Lamrissi A, Fichtali K, Bouhya S. Diagnosis and management of ectopic ovarian pregnancy: a rare case report. Int J Surg Case Rep 2022;91:106742.
2. Chang TY, Wang KG, Chen CY, Chen CP, Tzen CY, Yu SL, et al. Primary Unruptured Ovarian Pregnancy at 12 Weeks of Gestation. Taiwanese Journal of Obstetrics and Gynecology.2004 ;43(3):155–8.
3. Ren F, Liu G, Wang T, Li M, Guo Z. Unruptured ovarian ectopic pregnancy: Two case reports and literature review.. Front Physiol 2022 ;25;13.
4. Goyal LD, Tondon R, Goel P, Sehgal A. Ovarian ectopic pregnancy: A 10 years' experience and review of literature. Iran J Reprod Med. 2014;12(12):825-30.
5. Panda S, Darlong LM, Singh S, Borah T. Case report of a primary ovarian pregnancy in a primigravida. J Hum Reprod Sci.2009;2(2):90-2.