

Laparoscopic Management of an Ovarian Pregnancy

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ABSTRACT

Ovarian pregnancy is a rare form of ectopic pregnancy. Here we report one such case that was successfully treated laparoscopically.

Keywords: Ovarian Pregnancy, laparoscopy

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INTRODUCTION

Ovarian ectopic is a rare variant of ectopic implantation. Its incidence has been variously reported as 1 in 7,000 to 1 in 60,000^(1,2) deliveries and accounts for 1 to 3% of all ectopic gestations. It is common practice to treat tubal ectopic pregnancies laparoscopically. Ovarian ectopic pregnancies can be just as easily treated with the laparoscope. Here we describe one such case.

CASE REPORT

The patient was a 29-year-old female who was married for four years. She was seen and investigated for subfertility and found to have anovulation. She was treated with clomiphene citrate and she conceived. At seven weeks amenorrhea she underwent a transvaginal ultrasound scan. There was no evidence of an intrauterine gestational sac. However there was a mass containing a sac medial to the right ovary. This measured 3.9 x 3.0 x 2.8 cm. There was free fluid seen mainly on the right side of the cervix. It was highly suspicious of an ectopic pregnancy.

Emergency laparoscopy was done on the same day. There was a right ovarian ectopic pregnancy seen (Fig. 1). Adjacent to it was a corpus luteum cyst. There was a small amount of haemoperitoneum. The uterus was normal. Both fallopian tubes were normal and separate from the ectopic pregnancy (Fig. 2). The ovary was grasped and the ectopic was dissected from the ovary with sharp as well as blunt dissection. Hemostasis was secured with electrocautery. The total duration of the surgery was 90 minutes. Her post-operative recovery was uneventful. She was discharged on the second post-operative day.

Histology of the resected specimen showed chorionic villi and trophoblastic cells. It also showed

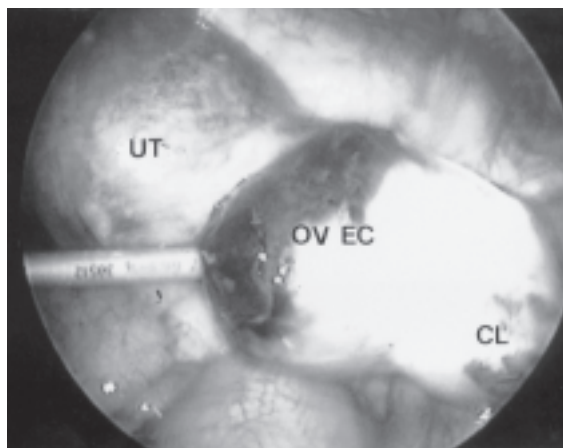


Fig. 1 Laparoscopic management of an ovarian pregnancy. UT - Uterus, EC - Ectopic, CL - Corpus Luteum & OV - Ovary.

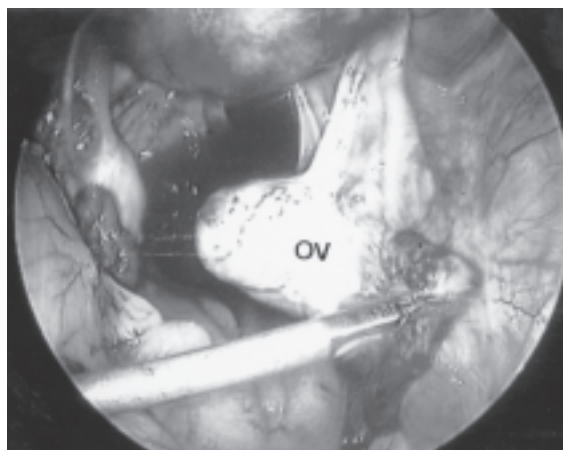


Fig. 2 Laparoscopic management of an ovarian pregnancy.

ovarian stromal tissue as well as a primordial follicle in the periphery of the specimen.

Incidentally, five months later she conceived spontaneously and this time she had a healthy intrauterine pregnancy that was carried to term.

DISCUSSION

The diagnosis of an ovarian ectopic pregnancy is seldom made before surgery. At the time of surgery it is diagnosed when a haemorrhagic mass is seen attached to one of the ovaries in the presence of normal looking fallopian tubes. Even then, it can

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be mistaken for a haemorrhagic corpus luteum or ovarian cyst. Hallat, in his study of 25 cases of ovarian pregnancies, reported that the most significant finding in his study was the inability to distinguish an ovarian pregnancy from a haemorrhagic ovary or ruptured corpus luteum. A correct surgical diagnosis was only made in 28% of the cases. In the remaining cases the diagnosis was made by the pathologist. This problem has to a great extent been overcome by the widespread availability of serum beta HCG monitoring. A serum beta HCG level of 1500 iu/l in the absence of an intra-uterine sac is highly suggestive of an ectopic pregnancy. If on laparoscopy the fallopian tubes appear normal the ovaries should be carefully inspected. The presence of a haemorrhagic lesion on the ovaries should arouse the suspicion of the surgeon to an ovarian ectopic pregnancy. If a concomitant corpus luteum is seen as in this case, then the diagnosis becomes easier.

Spiegelburg (1878) suggested four criteria to distinguish a primary ovarian pregnancy from a distal tubal pregnancy which has secondarily involved the ovary. They are (i) the fallopian tube with its fimbriae should be intact and separate from the ovary; (ii) the gestational sac should occupy the normal position of the ovary; (iii) the gestational sac should be connected to the uterus by the ovarian ligament; (iv) ovarian tissue must be present in the specimen attached to the gestational sac. All four criteria were satisfied in this patient.

Before the widespread use of transvaginal ultrasonography and serial measurement of serum human chorionic gonadotrophin beta subunit, patients with ovarian pregnancy usually presented after rupture of the gestational sac with intraperitoneal hemorrhage. Due to the increased vascularity of the ovarian tissue it was common to sustain massive haemorrhage with rapid circulatory collapse. These patients usually underwent oophorectomy or ovarian wedge resection⁽³⁾. Early detection of an ovarian pregnancy prior to rupture of the gestational sac and onset of active bleeding permits laparoscopic surgery and removal of the ectopic pregnancy without excessive removal of healthy ovarian tissue. This is especially important in young patients who may desire to maintain their reproductive capability.

Laparoscopic surgery has the advantage of reduced post-operative morbidity, allowing the patient to resume normal activities within a short period of time.

Systemic methotrexate has been successfully used to treat ovarian ectopic pregnancy⁽⁵⁾. There is a place for medical treatment of carefully selected patients with ectopic pregnancies be it tubal or ovarian. It prevents possible surgical complications such as intra operative haemorrhage, oophorectomy and pelvic adhesions. However methotrexate is not entirely without complications. In addition, if the initial diagnosis of an ectopic pregnancy is made during laparoscopy, it would seem logical to remove it at the same sitting and save the patient the anxiety of undergoing medical treatment and the possibility of repeat surgery should it fail. With early detection and good surgical techniques the amount of ovarian tissue lost will be insignificant and the resulting pelvic adhesions will be minimal if any. If however surgery is not a prerequisite for diagnosis of an ectopic pregnancy, patients who have an early missed or incomplete abortion may be unnecessarily treated with methotrexate. Due to these reasons surgery presently remains the mainstay of treatment for ovarian as well as tubal ectopic pregnancies.

Ovarian pregnancy occurs in fertile patients in contrast to tubal pregnancy, which is more frequently associated with impaired fertility. This patient however was subfertile, but she conceived spontaneously after the surgery. Unlike tubal ectopic which has a significant risk of recurrence, to date there have been no reports of a repeat ovarian pregnancy.

In conclusion, we believe this to be the first reported case of an ovarian ectopic pregnancy to be treated laparoscopically in Singapore. In the future, with early detection it will probably become the main mode of treatment for all ovarian ectopic pregnancies.

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