

# Recurrent ectopic pregnancy following ipsilateral partial salpingectomy

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## ABSTRACT

**An unusual case of a second ipsilateral ectopic pregnancy following a partial (proximal) salpingectomy for ectopic gestation is presented in a 32-year-old woman with a history of secondary infertility. This occurred in the distal remnant of the left fallopian tube. It is postulated that the pregnancy was conceived following migration of spermatozoa or the fertilised egg from the endometrial cavity to the distal remnant of the left fallopian tube or by passage of spermatozoa through the intact right fallopian tube and the pouch of Douglas. Consequent to the maintenance of a high index of suspicion of ectopic pregnancy, there was early diagnosis and expedient surgical intervention on both occasions.**

**Keywords:** ectopic pregnancy, laparoscopy, salpingectomy, tubal pregnancy

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## INTRODUCTION

Ectopic pregnancy is a major cause of maternal mortality, being a direct cause of 12.2% of maternal deaths in the Confidential Enquiries into Maternal Deaths in the United Kingdom 1997-1999 (CEMD)<sup>(1)</sup>. The incidence of ectopic pregnancy is increasing, and has risen from 12.2 per 1,000 deliveries in 2002 to 12.5 per 1,000 deliveries in 2003 in our institution. This reflects a combination of factors such as earlier and more accurate diagnosis and assisted reproduction techniques. Diagnosis is based on a combination of clinical suspicion in conjunction with ultrasonographical findings, a suboptimal rise in serial serum human chorionic-gonadotrophin beta subunit ( $\beta$ HCG) levels, and no evidence of an intra-uterine pregnancy after the discriminatory zone of a  $\beta$ HCG titre of 1,500 IU/L has been reached. Of concern is the difficulty encountered in diagnosing ectopic pregnancy, in view of the variable clinical presentation. The recurrence rate after a first ectopic pregnancy

is 10% after a salpingectomy and 15% after a salpingotomy<sup>(2)</sup>. We present a rare case of a recurrent ectopic pregnancy, occurring in the distal remnant of the left fallopian tube, after an ipsilateral partial (proximal) salpingectomy.

## CASE REPORT

A 32-year-old woman with a history of secondary infertility had been on follow-up at our institution for ten months. She had a previous termination of pregnancy but no other significant medical or surgical history. Investigations for infertility demonstrated a normal gonadotrophic hormonal profile, and her husband's semen analysis showed mild teratospermia. She was scheduled for laparoscopy and dye hydrotubation. However, before this was performed, she conceived spontaneously and presented to our Emergency Department at nine weeks of amenorrhoea and for per vaginal spotting. She did not have any associated abdominal pain. On investigation, urine pregnancy test was positive and her serum  $\beta$ HCG was 44,467.7 IU/L.

Transvaginal ultrasonography revealed a left adnexal mass measuring 4.4 x 4.2 x 3.9 cm, consistent with a left ectopic pregnancy. Emergency laparoscopy was performed to confirm the diagnosis. Intra-operatively, an ectopic pregnancy was found in the proximal segment of the left fallopian tube. There were also filmy adhesions in the pouch of Douglas, and between the posterior uterine wall and right ovary and tube. A left partial (proximal) salpingectomy and peritubal adhesiolysis was performed. Histological report of the specimen showed trophoblastic tissue within the fallopian tube lumen, thus confirming the tubal ectopic pregnancy. Her post-operative recovery was uneventful.

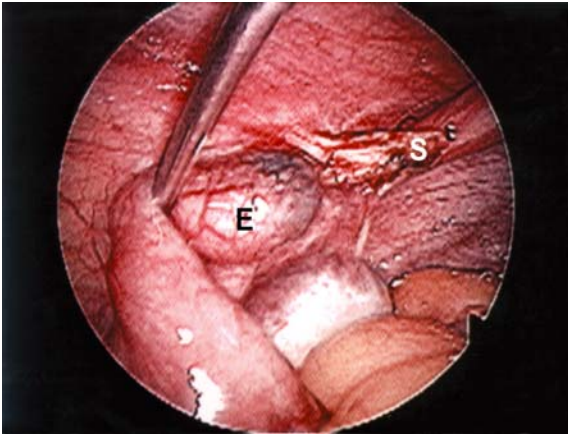
On routine outpatient review three months later, she complained of inter-menstrual bleeding, occurring just a week after her last known menstrual period. Again, there was no associated abdominal pain. As the urine pregnancy test subsequently conducted was positive again and in view of her current atypical per vaginal bleeding and previous history of

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**Fig. 1** Laparoscopy photograph shows the site of the previous partial proximal salpingectomy (S) and an ectopic pregnancy (E) in the distal remnant of the left fallopian tube.

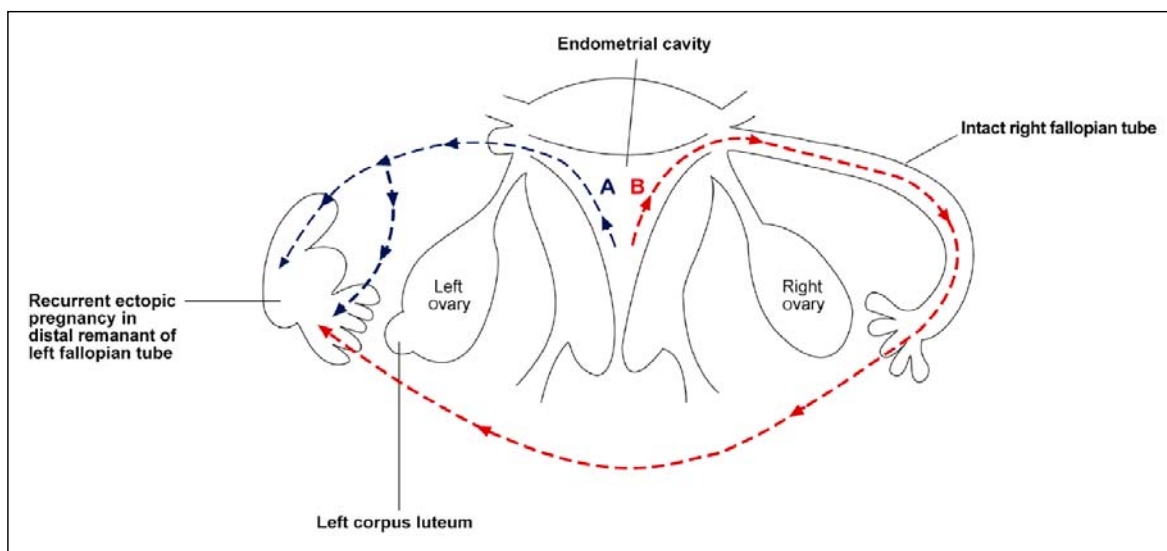
ectopic pregnancy, she was admitted to hospital for investigations to exclude a recurrent ectopic gestation.

At this admission, the presence of an intra-uterine gestational sac was not detected on transvaginal ultrasonography. Serum  $\beta$ HCG on admission was 945.3 IU/L, which decreased to 877.5 IU/L two days later. In consideration of the ultrasonography findings and the suboptimal decline in  $\beta$ HCG level, a decision was made for a second emergency laparoscopy to exclude a recurrent ectopic pregnancy. At laparoscopy, an ectopic pregnancy was found at the distal remnant of the left fallopian tube and there was a fresh corpus luteum in the left ovary (Fig. 1). This distal remnant and the products of conception were removed. The clinical diagnosis of tubal ectopic pregnancy was confirmed histologically. She was discharged home on the first post-operative day and was well on outpatient review one week later.

## DISCUSSION

This case illustrates the importance of maintaining a high index of suspicion of the diagnosis. Ectopic pregnancy is often proclaimed “the great masquerader” as the diagnosis is complicated by the wide spectrum of clinical presentation, varying from asymptomatic cases to haemoperitoneum and shock. The classic triad of amenorrhoea, abdominal pain and vaginal bleeding is presented in only 50% of patients with ectopic pregnancy<sup>(3)</sup>. Moreover the CEMD emphasises that ectopic pregnancy may mimic gastrointestinal or urinary tract disease<sup>(1)</sup>. Our patient was apparently well except for vaginal bleeding. Early diagnosis on both occasions allowed for timely intervention before the onset of catastrophic events. In particular, identification of the risk factors of previous ectopic pregnancy, prior fallopian tube surgery and history of infertility led to prompt hospitalisation for investigation on the second occasion. A management protocol utilising an initial screening ultrasonographical examination followed by serum  $\beta$ HCG monitoring and repeat high-resolution ultrasonography is available at our institution to improve the diagnosis of ectopic pregnancy<sup>(4)</sup>.

The question of “how did it get there” prevails. A MEDLINE search for similar cases where an ipsilateral ectopic gestation occurred after partial salpingectomy revealed that such occurrences were few and far between – there were only four case reports in the past 20 years<sup>(5-8)</sup>. Two postulates are made for our present report (Fig. 2). Firstly, that lumina persist in the interstitial portion and distal remnant of the left fallopian tube, allowing communication between the endometrial and



**Fig. 2** Recurrent tubal pregnancy following partial proximal salpingectomy may have occurred following passage of spermatozoa or the fertilised egg from the endometrial cavity to the distal remnant of the left fallopian tube (A) or by passage of spermatozoa through the intact right fallopian tube and the pouch of Douglas (B).

peritoneal cavities, and thus migration of spermatozoa or the fertilised egg from the endometrial cavity to the distal remnant of the left fallopian tube. Secondly, that this second ectopic pregnancy was conceived following passage of spermatozoa through the intact right fallopian tube and the pouch of Douglas to the distal remnant of the left fallopian tube. Transperitoneal embryo migration has been described<sup>(6)</sup> but it is not likely to have occurred in this case as the corpus luteum was on the same side as the ectopic pregnancy.

In conclusion, recurrent ectopic pregnancy following ipsilateral partial salpingectomy is a rare occurrence. There have only been five cases reported in the past 20 years. All clinicians need to be aware that ectopic pregnancy can present atypically. At primary care level and emergency departments, urine pregnancy testing should be performed in any woman of reproductive age with unexplained per vaginal bleeding. At tertiary level, management protocols should be in place to enable expedient diagnosis and therapeutic intervention of ectopic pregnancies. Nevertheless,  $\beta$ HCG trending may not be entirely conclusive in every case and hence the maintenance of a high index of clinical suspicion is of paramount importance.

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