

# RECURRENT IPSILATERAL ECTOPIC PREGNANCY AFTER PARTIAL SALPINGECTOMY

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Ectopic pregnancies are those that occur in any place other than the uterine cavity. During the last 20 years, the incidence of ectopic pregnancies has increased fourfold and now accounts for up to 2% of all pregnancies in the United States [1]. Ectopic pregnancy is an important issue during early pregnancy because of the associated maternal morbidity and even mortality [2].

Here, we present two patients with unusual ipsilateral tubal remnant ectopic pregnancies: one occurring in the proximal remnant of the fallopian tube and the other in the distal remnant of the fallopian tube. Both patients had undergone previous partial salpingectomies with laparoscopy.

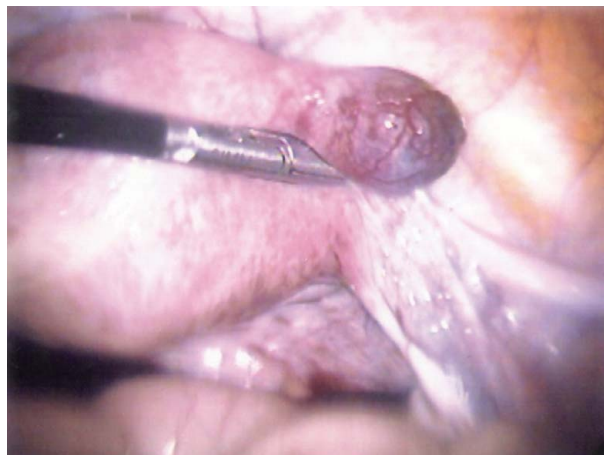
In Case 1, a 38-year-old multigravid woman with a history of previous ectopic pregnancy had undergone laparoscopic right partial salpingectomy 2 years prior to this admission. She had suffered from low abdominal pain for 2 days and had a positive pregnancy test result at the emergency department (ED) of Taipei Medical University–Wan Fang Medical Center. The concentration of serum  $\beta$  subunit of human chorionic gonadotropin ( $\beta$ -hCG) at the ED was 8,869 mIU/mL. The findings of a pretreatment ultrasound examination performed at the ED were consistent with an empty uterus with a moderate amount of cul-de-sac fluid. An ectopic pregnancy with internal bleeding was suggested.

The patient underwent therapeutic laparoscopic surgery with diagnostic dilatation and curettage (D&C). The findings of the laparoscopic surgery revealed hemo-peritoneum and a bulging mass about 2 cm in diameter at the proximal end of the previous partial salpingectomy remnant area (Figure 1). All the intra-abdominal

bloody contents were evacuated during surgery, and the portion of the tube was removed and sent for pathologic examination. Corpus luteum was noted in the patient's left ovary.

Histopathologic examination of the laparoscopic specimen showed a fallopian tube with trophoblast, which was consistent with the findings of a tubal pregnancy. Examination of the D&C specimen showed the existence of decidual tissues. Our patient was, therefore, diagnosed with an ipsilateral ectopic pregnancy in the proximal tubal remnant portion of the previous partial salpingectomy.

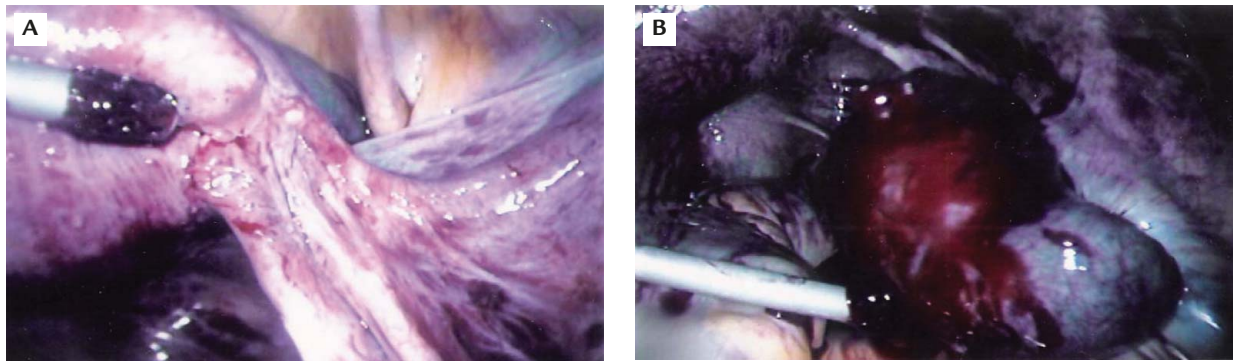
In Case 2, a 29-year-old multigravid woman with a history of previous ectopic pregnancy had undergone laparoscopic right partial salpingectomy 3 years prior to this admission. At presentation, she was suffering from severe low abdominal pain and had a positive pregnancy test result at the obstetrics and gynecology clinic of Taipei Medical University–Wan Fang Medical Center. The serum level of  $\beta$ -hCG on admission was 14,638 mIU/mL. The findings of a pretreatment transvaginal ultrasound examination performed at our



**Figure 1.** Laparoscopic image of right proximal fallopian tube remnant with an ectopic pregnancy.



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**Figure 2.** (A) Laparoscopic image of the previous proximal salpingectomy blind end. (B) Right distal fallopian tube remnant with an ectopic pregnancy.

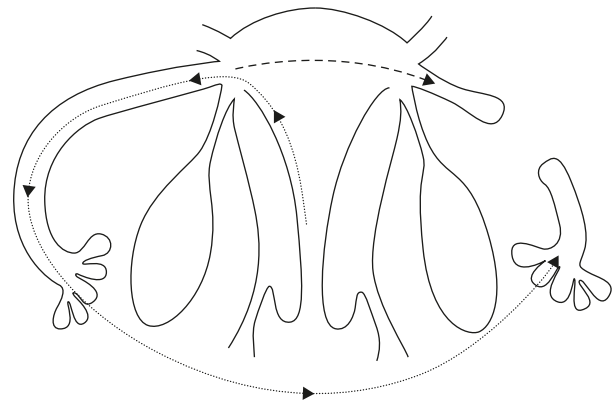
clinic were consistent with an empty uterus and a large amount of cul-de-sac fluid. An ectopic pregnancy with internal bleeding was suggested.

The patient underwent therapeutic laparoscopic surgery with D&C. The findings revealed hemoperitoneum and a bulging mass about 3.5 cm in diameter at the distal end of the previous partial salpingectomy remnant area (Figure 2). The intra-abdominal bloody contents were evacuated during surgery, and the portion of the tube was removed and sent to the laboratory for pathologic examination. Corpus luteum was located in her right ovary.

Histopathologic examination of the laparoscopic specimens showed that the fallopian tube had trophoblasts, which was consistent with a tubal pregnancy. The D&C specimen showed the existence of decidual tissues. This patient was, therefore, diagnosed with an ipsilateral ectopic pregnancy in the distal tubal remnant portion of the previous partial salpingectomy.

The risk factors for ectopic pregnancy include a history of tubal surgery, *in utero* exposure to diethylstilbestrol, use of intrauterine devices, tubal pathology, infertility, previous genital infections, multiple sexual partners, previous pelvic/abdominal surgery, cigarette smoking, vaginal douching, and having first intercourse at early age (<18 years) [1]. The frequency of ectopic pregnancies has been increasing because of the increased rate of tubal infections and more frequent use of assisted reproductive techniques [1].

The need for laparoscopy when diagnosing ectopic pregnancies has been reduced because of the increased use of transvaginal ultrasonography and quantitative measurement of  $\beta$ -hCG [2]. The treatment options for women with ectopic pregnancies include surgical, medical or expectant management [2]. In our two cases, laparoscopic surgery was used instead of laparotomy, because the patients were hemodynamically stable and because they wanted shorter hospital stays [2].



**Figure 3.** Dashed line indicates the fertilized egg migrating from the intact left fallopian tube, across the endometrial cavity to the remnant right stump of the previous partial salpingectomy (internal migration) in Case 1. Dotted line indicates the passage of spermatozoa through the intact left fallopian tube, across the cul-de-sac, to the distal remnant of the right fallopian tube of the previous partial salpingectomy in Case 2.

The rate of subsequent intrauterine pregnancy in patients with a history of salpingectomy ranges from 38% to 66%, whereas the rate of repeat ectopic pregnancy usually varies from 6% to 28% [2]. However, no available data are available for recurrent ipsilateral ectopic pregnancies.

In Case 1, we postulate that the fertilized egg migrated from the intact left fallopian tube, across the endometrial cavity, to the remnant right stump of the previous partial salpingectomy (internal migration; Figure 3). A similar case has previously been reported in the literature, but it occurred after *in vitro* fertilization combined with egg donation [3].

In Case 2, we postulate that the recurrent ectopic pregnancy was conceived following the passage of spermatozoa through the intact left fallopian tube, across the cul-de-sac, to the distal remnant of the right fallopian tube from the previous partial salpingectomy (Figure 3). A similar case has been reported in the literature, but

it occurred in the distal remnant of the left fallopian tube [4].

In conclusion, recurrent ectopic pregnancy following ipsilateral partial salpingectomy is rare, but it is important to maintain a high index of clinical suspicion. Based on these two case reports and those described in the literature, obstetricians should be aware of the possible existence of recurrent ipsilateral ectopic pregnancies so that careful measures can be taken to avoid fatal complications.

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