

Recurrent Ipsilateral Cornual Pregnancy After Salpingectomy

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ABSTRACT

Introduction: Cornual pregnancy on the same side as a previous salpingectomy is a very rare pathologic condition in cases of spontaneous pregnancy.

Case Description: A 31-year-old woman (gravida 2, para 0) was admitted with abdominal pain and vaginal hemorrhage. She had a history of laparoscopic left salpingectomy for tubal pregnancy 6 years ago at another hospital. Two-port laparoscopy with a multichannel port was performed and revealed a left cornual pregnancy with hemoperitoneum. Five months later, she visited our emergency department because of abdominal pain. We performed 2-port laparoscopy, using a multichannel port for a left cornual pregnancy with hemoperitoneum.

Discussion: Two-port laparoscopy with a multichannel port for recurrent cornual pregnancy was relative safe and easy, with the advantages of reduced surgical morbidity, less bleeding, and shorter operative time.

Key Words: Cornual pregnancy, Laparoscopy, Recurrence, Salpingectomy, Salpinx.

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INTRODUCTION

Cornual pregnancy or interstitial pregnancy is a rare type of ectopic pregnancy, with an incidence of approximately 2% to 4% of all tubal pregnancies.¹ Cornual pregnancy on the same side as a previous salpingectomy is a very rare pathologic condition in cases of spontaneous pregnancy. Few cases of ipsilateral cornual pregnancy after salpingectomy have been reported.² We present a rare case of recurrent ipsilateral cornual pregnancy after salpingectomy that was surgically treated via laparoscopy, along with a brief review of the literature. The institutional Review Board/Ethics Committee of Ulsan College of Medicine ruled that approval was not required for this study.

CASE REPORT

A 31-year-old woman (gravida 2, para 0) was admitted with abdominal pain and vaginal hemorrhage. She had a history of laparoscopic left salpingectomy for tubal pregnancy 6 years ago at an outside hospital. She visited the

local clinic because of abdominal pain. Transvaginal sonography and culdocentesis revealed a hemoperitoneum with an ectopic pregnancy. She was referred to our clinic for laparoscopy. We performed 2-port laparoscopy with a multichannel port and revealed a left cornual pregnancy with hemoperitoneum (**Figure 1A**). The left round ligament and left ovarian ligament were coagulated and excised with electrical surgical instruments. An Endoloop ligature (Ethicon, Somerville, New Jersey, USA) was placed at the cornual base and anchored to the uterine portion of the resected round ligament to avoid slippage of the ligature. The tied cornual portion was excised at the midportion. The excised cornual portion was repaired with EndoKnot (Ethicon, Somerville, New Jersey, USA) sutures and ligatures (**Figure 1B**). The patient was discharged on postoperative day 4.

Five months later, the patient visited our emergency department because of abdominal pain. A transvaginal sonogram revealed a 4.3-cm mass protruding from the left cornus of her uterus. We performed 2-port laparoscopy

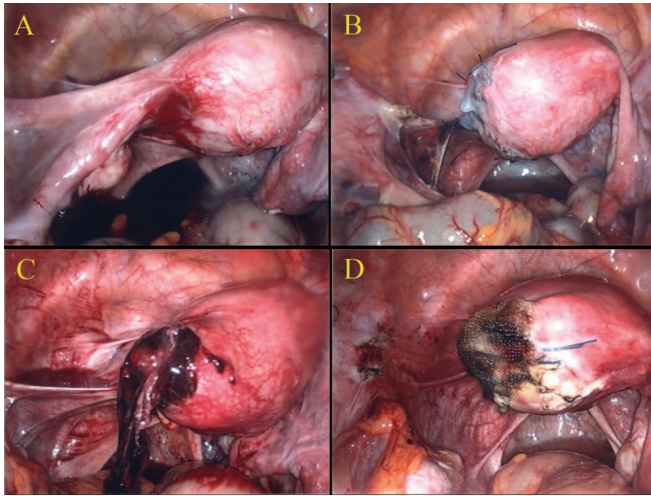


Figure 1. First episode: (A) laparoscopic view of left cornual pregnancy after salpingectomy with hemorrhage. Laparoscopic cornual resection and primary repair were performed with EndoKnot sutures and ligatures after coagulation of the ascending branch of the left uterine artery. (B) Hemostatic glue was applied after the primary repair. Second episode: (C) laparoscopic finding of left recurrent ipsilateral cornual pregnancy, with rupture, after salpingectomy. Cornual resection and cornual repair were performed with sutures and ligatures after coagulation of the ascending branch of the uterine artery. (D) Hemostatic material was applied to the uterine cornus after repair.

with a multichannel port for a left cornual pregnancy, with hemoperitoneum (Figure 1C). The left uterine isthmus portion was coagulated with bipolar forceps to ligate the left ascending branch of the left uterine artery. A left cornual resection was performed by laparoscopy and repaired with EndoKnot ligatures (Figure 1D). The patient's postoperative course was uneventful.

The patient visited our clinic for amenorrhea on July 19, 2013. Transvaginal sonography revealed a normal intrauterine pregnancy. The prenatal course was uneventful. However, she was diagnosed with premature rupture of

membranes and preterm labor at 35 weeks and 3 days of gestation, and a male 2.88-kg baby was delivered by emergency cesarean section (Figure 2). The patient had an unremarkable postoperative course and was discharged on postoperative day 5.

DISCUSSION

A cornual or interstitial pregnancy is a type of tubal pregnancy that is abnormally located in the proximal portion of the fallopian tube, lying within the muscular wall of the uterus. The incidence of cornual pregnancy is approximately 1 in 5,000–25,000 deliveries.³ Therefore, recurrent cornual pregnancy is a rare condition.

Ipsilateral cornual pregnancy after salpingectomy has been suggested to occur when the zygote transmigrates across the uterine cavity from one cornus to the other.⁴ Another theory posits that spermatozoa pass through the patent tube into the pouch of Douglas and then fertilize the ovum on the side of the diseased tube. A third theory suggests that lumina remain intact in the interstitial portion and the distal remnant of the fallopian tubes despite ligation.^{5,6} The etiology of recurrent cornual pregnancy remains unknown, and the mechanism of ectopic pregnancy in the remnant tube after salpingectomy is not clear. However, there are a few potential options for decreasing the probability of recurrence. When performing the salpingectomy, care should be taken not to leave a long stump. Alternatively, a hysterosalpingography can be performed to evaluate the patency of the fallopian tubes after salpingectomy and ligation, and flexible microinserts can be inserted into the remnant tube.⁷ In our case, these suggested options were not applicable, as there were no remnant tubes or lumina in the interstitial portion after cornual resection.

Risk factors for recurrent tubal ectopic pregnancy, such as pelvic inflammatory disease, tubal disease, adnexal surgery,

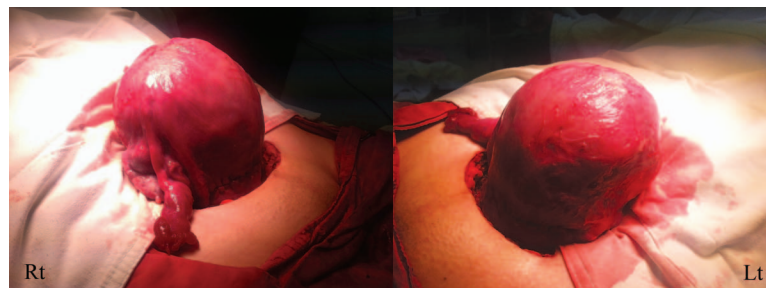


Figure 2. The uterus after cesarean section. The right adnexa of the uterus had a normal appearance. The left cornual portion of the uterus healed without dehiscence of the uterine wall.

and assisted reproductive techniques, have been shown to be associated with ipsilateral cornual pregnancy.⁸

At present, laparoscopic cornual resection has been performed in many cases as surgical instruments and techniques have been developed. However, cornual resection by laparoscopy has several performance limitations, including the risk of uncontrolled hemorrhage and the difficulty in suturing and ligating around the uterine cornus. Laparoscopic cornual resection was twice performed with a published method.^{9,10} To prevent hemorrhage, the ascending branch of the uterine artery was coagulated at the level of the left isthmic portion of the uterus with a bipolar electro-surgical device, and the base of the cornus was ligated with an Endoloop. Subsequently, the excised cornual portion was repaired with using EndoKnot sutures and ligatures via the extracorporeal technique. This method was relative safe and easy, with the advantages of reduced surgical morbidity, less bleeding, and shorter operative time.

References:

1. Bouyer J, Coste J, Fernandez H, Pouly JL, Job-Spira N. Sites of ectopic pregnancy: a 10 year population-based study of 1800 cases. *Hum Reprod.* 2002;17:3224–3230.
2. Simpson JW, Alford CD, Miller AC. Interstitial pregnancy following homolateral salpingectomy: a report of 6 new cases and review of the literature. *Am J Obstet Gynecol.* 1961;82:1173–1179.
3. Tulandi T, Saleh A. Surgical management of ectopic pregnancy. *Clin Obstet Gynecol.* 1999;42:31–38.
4. Cartwright PS, Entman SS. Repeat ipsilateral tubal pregnancy following partial salpingectomy: a case report. *Fertil Steril.* 1984;42:647–648.
5. Zuzarte R, Khong CC. Recurrent ectopic pregnancy following ipsilateral partial salpingectomy. *Singapore Med J.* 2005;46:476–478.
6. Fruscella L, Danti M, Toti R. Extrauterine pregnancy in residual tube stump in a patient already treated with partial salpingectomy for right ampullar pregnancy: report of a clinical case (in Italian). *Minerva Ginecol.* 1994;46:695–697.
7. Samiei-Sarir B, Diehm C. Recurrent ectopic pregnancy in the tubal remnant after salpingectomy. *Case Rep Obstet Gynecol.* 2013;2013:753269.
8. Siow A, Ng S. Laparoscopic management of 4 cases of recurrent cornual ectopic pregnancy and review of literature. *J Minim Invasive Gynecol.* 2011;18:296–302.
9. Lee YJ, Yi SW. A case of ipsilateral ruptured cornual pregnancy after salpingectomy for tubal pregnancy: 2-port pelviscopic cornual resection using a multichannel port. *Korean J Gynecol Endosc Minim Invasive Surg.* 2011;23:94–98.
10. Yi SW. Two-port laparoscopic adnexal surgery with a multichannel port using a wound retractor: is it safe and minimally scarring? *J Laparoendosc Adv Surg Tech A.* 2009;19:781–786.