Ovarian Ectopic Pregnancy 6 Years After Supracervical Cesarean Hysterectomy

A Case Report

Donald L. Fylstra, M.D.

BACKGROUND: Pregnancy after hysterectomy is very rare, with fewer than 40 cases reported in the English-language literature. The majority of cases are diagnosed in the early posthysterectomy, postoperative period, indicating that the pregnancy was present at the time of hysterectomy. Cases diagnosed remotely from the time of hysterectomy result from a fistulous tract allowing sperm access to the peritoneal cavity.

CASE: A 37-year-old woman 6 years since a supracervical cesarean hysterectomy was treated for a ruptured ovarian pregnancy.

CONCLUSION: A woman with intact ovaries presenting with abdominal pain, despite a prior hysterectomy, should be considered at risk for ectopic pregnancy. The presence of a cervix may increase that risk. (J Reprod Med 2009;54:649–651)

Keywords: ectopic pregnancy, hysterectomy, ovaries.

Ectopic pregnancy after hysterectomy is very rare. Since first described by Wendeler in 1895, fewer than 40 cases have been reported in the English-language medical literature.1 The majority of these cases, two thirds, are ectopic pregnancies treated in the immediately postoperative period 1–3 months following hysterectomy.2-6 This occurs either because an ectopic pregnancy was present and unrecognized at the time of the hysterectomy or a preimplanted fertilized ovum was in transit and confined to the fallopian tube during hysterectomy: a “luteal-phase pregnancy.”

However, pregnancy is well described to occur remotely, even years from the time of hysterectomy, with 75% occurring after vaginal hysterectomy.2,7 In order for pregnancy to occur following a hysterectomy, a communication between the vagina and peritoneal cavity must exist to allow sperm access to ovulated ova. A peritoneal-vaginal or tubovaginal fistula may develop following closure of the vaginal vault at the time of hysterectomy. It is more common for the fallopian tube and ovary to be brought into proximity of the vaginal cuff during closure with vaginal hysterectomy, increasing the chance for fistula formation. Vaginal cuff infection

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and granulation tissue, likewise, can increase the chance of fistula formation.

Ectopic pregnancy has also been reported following abdominal hysterectomy, laparoscopically assisted vaginal hysterectomy, cesarean hysterectomy, abdominal supravaginal hysterectomy and laparoscopic supravaginal hysterectomy. The ovaries are usually more distant from the vaginal cuff during abdominal hysterectomy, and the commonly employed technique of closure of the pelvic floor parietal peritoneum over the vaginal cuff after total abdominal hysterectomy, or over the cervical stump with supravaginal hysterectomy, isolating the vagina from the peritoneal cavity, probably explains the much lower incidence of remote pregnancy after abdominal hysterectomy.

Presented is a case of ovarian pregnancy 6 years after cesarean supravaginal hysterectomy.

**Case Report**

A 36-year-old woman, gravida 3, para 3, abortion 0, presented to an outside hospital emergency department complaining of worsening lower abdominal pain and light vaginal bleeding. She endured 2 weeks of crampy, slowly worsening lower abdominal pain with no fever, associated gastrointestinal symptoms or urinary tract symptoms. Laboratory data at the referring hospital included a hemoglobin of 11.0 g/dL and a serum human chorionic gonadotropin (hCG) level of 10,587 mIU/mL. Pelvic sonography at the referring hospital revealed a 10-cm-diameter, complex pelvic mass. The patient was referred to the Medical University of South Carolina with the initial suspicion of an ovarian neoplasm.

The patient had had 2 previous uncomplicated term vaginal deliveries, but her last pregnancy, 6 years prior to her current presentation, was complicated by chorioamnionitis and a nonreassuring fetal heart rate pattern requiring cesarean delivery, with uterine atony necessitating cesarean hysterectomy. After her cesarean hysterectomy she experienced no vaginal bleeding until light vaginal bleeding began shortly before her current presentation. She was healthy, with no other operative procedures. She had no history of sexually transmitted infections or abnormal Pap smears.

Physical examination revealed a healthy-appearing woman complaining of moderate abdominal pain. She had a well-healed Pfannenstiel abdominal incision, and her abdomen was soft, with bilateral lower quadrant tenderness but without rebound or guarding. Pelvic examination confirmed light vaginal bleeding, and a cervix was visualized, with blood coming from the external cervical os. Bimanual examination confirmed significant pelvic tenderness.

Repeat pelvic imaging with sonography and magnetic resonance confirmed absence of the uterus consistent with the patient’s history of hysterectomy and a complex, heterogeneous, 10-cm-diameter pelvic mass, the appearance of which was consistent with clotted blood and ectopic pregnancy and not an ovarian neoplasm. Laboratory data confirmed the positive hCG, hemoglobin was 9.8 g/dL, blood type was A positive, general chemistries were normal, carcinoembryonic antigen was < 1.0 U/mL, cancer antigen 125 was 12.2 U/mL, cancer antigen 19-9 was 10 U/mL, and α-fetoprotein was < 3.0 ng/mL.

With the suspicion of a posthysterectomy ectopic pregnancy, the patient underwent operative laparoscopy, which revealed a ruptured left ovarian pregnancy (Figure 1), which was resected without...
difficulty, and the patient recovered uneventfully. Pathologic examination confirmed ovarian pregnancy (Figure 2).

Discussion

Pregnancy after hysterectomy is very uncommon, but when it does occur, it is frequently unsuspected. Ectopic pregnancy as the etiology of a woman’s abdominal pain after she has had a hysterectomy is seldom considered and is frequently diagnosed in the operating room or on final pathologic examination of a removed surgical specimen. Any woman of reproductive age with 1 or both ovaries in situ, despite the history of removal of the uterus, who presents with abdominal pain should be considered at risk, albeit low, for ectopic pregnancy. A urine pregnancy test is a rapid, simple and inexpensive test to perform.

The majority of posthysterectomy ectopic pregnancies occur in the immediate postoperative period and are the result of a pregnancy unrecognized at the time of hysterectomy. Preoperative screening for pregnancy should be considered for all premenopausal women. However, the gynecologist should be wary of performing a hysterectomy during the postovulatory luteal phase of the menstrual cycle in those fertile women using no method of contraception because a preoperative pregnancy test will not be helpful prior to implantation.

Prevention is the best treatment. Meticulous attention to proper surgical technique to decrease the risk of vaginal cuff infection and hematoma formation, to secure good closure of the vaginal cuff and to seal the proximal cervical stump is more likely to prevent communication between the vagina and peritoneal cavity. This is especially true for cesarean hysterectomy, which, by the nature of the operation, can frequently leave some cervix in situ, and today for the more frequently performed laparoscopic supracervical hysterectomy. The remaining cervical canal can potentially provide sperm access to the peritoneal cavity. The commonly used technique of cauterizing the proximal vaginal stump to prevent posthysterectomy cyclic vaginal bleeding at the time of laparoscopic supracervical hysterectomy may not be adequate to prevent patency of the cervical canal. This could result in an increase in the incidence of ectopic pregnancy after this procedure.

References

1. Wendeler P: Ein fall con tubenschwangershaft nach extirpatio uteri vaginalis. Monatsschr Geburtsh Gynakol (suppl) 1895; 2:210