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Abscess formation in ovarian endometriomas after failure of mifepristone-induced abortion

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Summary

Objective: To report a case of abscess formation in bilateral ovarian endometriomas after failure of mifepristone-induced abortion. *Case Report:* A-36-year-old multiparous woman with bilateral ovarian endometriomas conceived spontaneously and received mifepristone to induce an abortion at 35 days' gestation. Fever and lower abdominal pain occurred 28 days after the abortion. The patient then underwent surgical curettage for an incomplete abortion complicated by endometritis. Her symptoms and signs became aggravated, and computed tomography showed a large ovarian abscess. She underwent laparoscopic drainage of the abscess plus the enucleation of the ovarian endometriomas, and received intravenous antibiotic treatment. She resumed menstruation one month later and was doing well at the 11-month follow-up. *Conclusion:* This case demonstrates the importance of combining antibiotic therapy with mifepristone to induce abortions in women with known ovarian endometriomas.

Key words: Endometrioma; Mifepristone; Abortion; Ovarian abscess.

Introduction

Ovarian endometrioma is a benign gynecologic condition that appears as a marker for extensive pelvic endometriosis and is frequently associated with menstrual problems and subfertility [1]. Investigators have reported that nulliparous women, or multiparous women with no more than two children, who experience advanced-stage endometriosis were more apt to develop tubo-ovarian abscess than those without endometriosis [2]. The combination of mifepristone with misoprostol is well adapted to and used extensively in first-trimester medical abortions. In women who have ovarian endometrioma, the use of medical abortion is not contraindicated and remains the first-line pregnancy termination method of choice [3]. The authors report an unusual case of failed medical pregnancy termination in a woman who had had bilateral ovarian endometriomas that became abscessed and required surgical intervention.

Case Report

A 36-year-old woman, gravida 3, para 2, visited the present outpatient clinic requesting medical termination of pregnancy. She had infertility and bilateral ovarian endometriomas for many years, and her previous pregnancies were conceived by artificial insemination. A cesarean section was performed due to a twin pregnancy 1.5 years previously, and pelvic adhesions were observed. At this office visit, her physician identified a pregnancy of about 35 days' gestation and bilateral adnexal cystic lesions measuring more than five cm in diameter using vaginal ultrasound. A medical abortion was scheduled as requested.

The treatment protocol consisted of mifepristone 600 mg orally, followed by misoprostol 600 μg orally two days later in the physician's office. The patient declined oral antibiotics because she was breast feeding her child. Vaginal bleeding with expulsion of blood clots was noted after the initiation of the treatment. She had vaginal bleeding off and on, which was monitored by ultrasound for two weeks after taking mifepristone. Vaginal ultrasound showed retained gestational tissue (Figure 1) indicating an incomplete abortion. Misoprostol 400 μg plus doxycycline 100 mg orally twice daily for seven days were administered. No clinical improvement after treatment was observed; therefore, the patient underwent a surgical abortion with vacuum curettage. The products of conception were histologically confirmed. Three days after surgery, she visited the emergency room due to fever of 39°C. A physical examination showed marked diffuse lower abdominal pain and tenderness. Computed tomographic imaging revealed hyperdense material in bilateral cystic masses; an abscess in the left ovary was diagnosed (Figure 2).

Parenteral antibiotics were administered initially and laparoscopy was performed three days later because of persistent symptoms. A left ovarian endometrioma abscess and right solitary endometrioma were found (Figure 3). Drainage of the abscess and enucleation of the bilateral endometriomas were performed followed by cefazolin two grams daily and gentamicin 180 mg daily in divided doses for one week. The pathology report confirmed the abscess, however, cultures of the abscess and blood grew no bacteria. The patient had an unremarkable postoperative course and was discharged on postoperative day 8. Menstruation resumed one month later, and the patient was in good condition at her 11-month follow-up visit.

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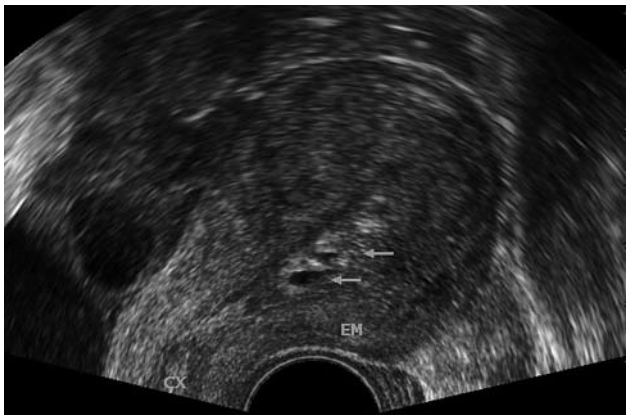

Figure 1. — Transvaginal ultrasound showing retained gestational tissue (white arrow) in the endometrial cavity.

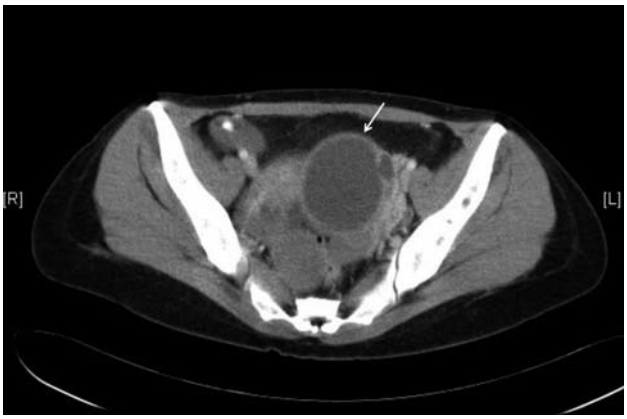

Figure 2. — Computed tomography with contrast suggests a left ovarian abscess (white arrow).

Discussion

For first-trimester medical abortions, misoprostol is used extensively in conjunction with mifepristone. While the regimen varies in Taiwan, the most common government approved regimen for medical abortion before 49 days of gestation is 600 mg of oral mifepristone followed by misoprostol two days later in the physician's office. The US Food and Drug Administration, the International Federation of Obstetricians and Gynaecologists, and the World Health Organization recommend 200 mg of mifepristone followed by misoprostol 400 µg orally two days later [3, 4]. Nonetheless, the overall efficacy rate among different ethnic groups is close to 95%, and the reported complications requiring hospitalization are less than 0.5 % [3–5]. Failures are related to abortion after 49 days of gestation, lower doses of misoprostol, multiple pregnancies, and uterine anomalies [5–7]. The present patient had no related medical condition and received the standard approved regimen.

Regardless of the misoprostol dose, the Planned Parenthood Federation of America changed its medical abortion protocol at the end of March 2006. Vaginal administration of misoprostol was discontinued and replaced by buccal administration to reduce the risk of infection. Routine antibiotic coverage (doxycycline 100 mg orally twice daily for seven days starting on the same day as mifepristone) and ceftriaxone 125 mg intramuscularly in a single dose for gonorrhea, when considered appropriate, were also provided [8]. There was a 93% reduction in the rate of serious infections following the switch to buccal misoprostol and routine antibiotic coverage. Serious infections, including pelvic abscesses, became extremely rare. The leniency handling the denial of using oral antibiotics due to breast feeding in the present patient was a major predisposing factor causing severe infection in the failed abortion.

Endometriosis is a common, benign, estrogen-dependent gynecologic disease that affects 6% to 10% of all women. Recently, investigators reported that it is associated with subclinical pelvic inflammatory status. Abscess formation in endometriomas occurs after surgical procedures such as cyst aspiration, oocyte retrieval, and diagnostic hysteroscopy [2, 9, 10]. Preexisting old blood in endometriomas and the pelvic area could contribute to bacterial growth. In the current case, the patient experienced prolonged vaginal spotting after the failed medical abortion, surgical vacuum curettage, and the presence of bilateral ovarian endometriomas. The development of a subsequent pelvic infection was a reasonable assumption.

Ovarian endometrioma is an asymmetric disease and is found more frequently on the left than the right side of

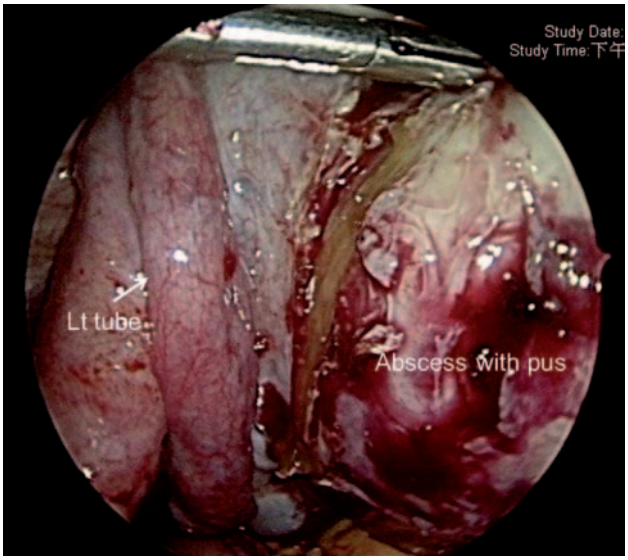

Figure 3. — Laparoscopic drainage of the abscess.

the body [11]. Retrograde menstruation and the anatomical differences of the left and right hemipelvis are considered the main predisposing factors. The patient developed a left-side abscess. Tubo-ovarian abscess is mainly an ascending infection, and theoretically, just like endometrioma, it is liable to occur on the left side. However, one recent study did not demonstrate a relationship between tubo-ovarian abscess and anatomical location [12].

Gynecologists have long utilized laparoscopy for diagnosing and treating reproductive and gynecological lesions. However, the use of laparoscopy in the management of intra-abdominal abscess is uncertain. The development of new techniques and instruments for laparoscopy has provided clinicians with the possibility of direct visual confirmation of intra-abdominal conditions, allowing the performance aggressive procedures. Abscesses occurring in ovarian endometriomas, similar to abscesses in severe pelvic endometriosis, often have more aggressive and complicated courses than abscesses in the absence of endometriosis. Furthermore, abscesses associated with endometriosis and endometriomas are, usually, refractory to antibiotic treatment [13]. As in the present patient, laparoscopy enabled the clinician to confirm the diagnosis, remove infected tissue in the pelvis, and perform adequate treatment.

In summary, in order to avoid a failed medical abortion followed by a severe pelvic infection, oral administration of mifepristone should be combined with antibiotics for one week. Thereafter, patients with known ovarian endometriomas should be monitored with serial weekly ultrasound examinations. An alternative method would be to consider a surgical abortion. When dealing with a tubo-ovarian abscess and unsuccessful empirical antibiotic therapy, early surgical intervention improves diagnostic precision and helps accurately determine disease severity; optimal management may then follow.

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