

Primary Ovarian Abscess in Pregnancy

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Abstract

Primary ovarian abscess is a rare entity, occurrence of ovarian abscess during pregnancy is even rarer. The clinical presentation is variable ranging from asymptomatic abscess to diffuse peritonitis. A delay in diagnosis may be detrimental to both mother and the fetus. We report a case of asymptomatic primary ovarian abscess associated with a term pregnancy.

Key Words

Ovarian abscess, pregnancy.

Introduction

Primary ovarian abscess in association with pregnancy is a very rare occurrence. A delay in diagnosis and management may be detrimental to both pregnant mother and fetus (1). Modern imaging modalities including ultrasound and MRI may help in making an early diagnosis.

We report a case of asymptomatic primary ovarian abscess in association with a term pregnancy, incidentally diagnosed at caesarean section. Management resulted in birth of a live fetus and an uncomplicated postoperative course for the mother.

Case Report

A 29 year old primigravida was registered in our antenatal clinic at 9 weeks of gestation. A level two ultrasound at 16 weeks revealed a multiloculated right adnexal mass measuring 6x6 cm size along with a single live fetus with no malformations. The patient was advised surgery for removal of mass, but refused. She had regular prenatal checkups and had an uneventful pregnancy

course till term with no complaints of fever or pain in abdomen. She had no past history suggestive of tuberculosis, pelvic inflammatory disease, any pelvic or abdominal surgery, appendicitis, diverticulitis or tonsillitis. Repeat ultrasound scans done at 28 and 34 weeks gestation revealed the adnexal mass to be of same size. At 40 weeks of gestation, she was planned for an elective induction due to development of pregnancy-induced hypertension.

On admission, her BP was 140/100mm Hg while other vitals were stable. On per abdominal examination, uterus was term size with vertex presentation, fetal heart rate was 146 beats per minute. As per vaginal examination, cervix was found to be unfavourable with a Bishop score of 4. Cervical priming was done using Dinoprostone gel (0.5mg) followed by augmentation with oxytocin drip (2.5 units in 500 ml Ringer lactate at the rate of 16 drops per minute in escalating doses) after 6 hours.

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Fetal bradycardia developed during the course of labor induction and the patient was finally taken up for an emergency lower segment caesarean section under general anaesthesia. A female infant weighing 3.5 kg with an apgar score of 7/10 at one minute was born with no evidence of meconium staining or cord around the neck.

Intra operative findings revealed a 10x10 cm right-sided encysted ovarian abscess extending into the folds of the broad ligament. The right tube appeared normal. The abscess wall inadvertently got ruptured during the process of dissection; approximately 25-30 ml of malodorous frank pus (thick, purulent and foul smelling) was drained. Cyst wall was submitted for histopathological examination and pus for microbiological study. Left tube and ovary were normal. Right ovarian removal was performed followed by thorough peritoneal lavage with saline solution and insertion of a pelvic drain. Postoperatively, patient was put on intravenous antibiotics (Cefotaxime and Amikacin). She had an uneventful postoperative course. Both mother and baby were discharged on 10th postoperative day in a healthy condition.

Histopathological examination of the surgical specimen was reported as chronic abscess with oophoritis. Cultures obtained from the purulent discharge of ovarian abscess grew proteus vulgaris.

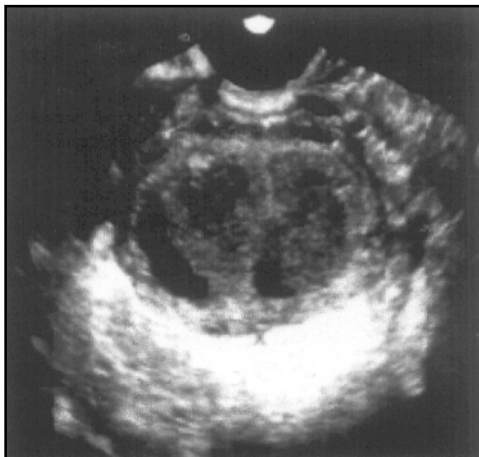


Fig. 1. Transabdominal picture (ultrasound) showing a multiloculated ovarian cyst on right side.

Discussion

Adnexal masses in pregnancy requiring surgical intervention occur with a frequency ranging from 1 in 81 to 1 in 2500 live births (2). Elective surgical removal is recommended for any mass greater than 6 cm in diameter that continues to exist into the second trimester, unless the mass is suspected to be a uterine leiomyoma. Reports of pelvic abscess complicating pregnancy are rare. It is usually unilateral and more commonly seen in first than in second or third trimesters.

Ovarian abscess is a primary infection of the parenchyma of the ovary, an entity distinctly different from tuboovarian abscess. Tuboovarian abscess, by contrast, involves the ovary by secondary spread from the infected fallopian tube (3). Aitken is attributed to give the earliest description of primary ovarian abscess in 1869 (4). Black presented the first major series of 42 cases in 1936. Wetchler and Dunn have reported 120 cases in literature till 1985 (3).

The etiology of ovarian abscess in pregnancy is uncertain and in all probability is different from that in nonpregnant state. Ascending infection is the most important mode of infection in non-pregnant women. Barriers to ascending infection in pregnancy include cervical mucus plug, intact fetal membranes and the decidua covering the openings of the fallopian tubes. Friedman & Bobrow (5) have proposed four mechanisms for infection of ovaries during pregnancy:

1. Haematogenous spread as in pelvic tuberculosis.
2. Lymphatic spread especially from vagina and cervix.
3. Infection of a previously existing ovarian cyst.
4. Flare up of an old postabortal infection.

Cases of ovarian abscess have also been reported due to non-gynaecological conditions such as ruptured appendicitis or diverticulitis or secondary to infection at distant sites as in tonsillitis, typhoid, parotitis and

tuberculosis. Association of ovarian abscess with IUD (Intrauterine device) has been noted and some of them may be secondary to actinomyces. It may also occur due to secondary infection in a dermoid cyst, serous cystadenoma or simple ovarian cyst. Ovarian abscess is also a known complication of transvaginal oocyte retrieval or transcervical embryo transfer, occurring in approximately 0.2-2.2 % of cases (6). It is difficult to state the exact mechanism of development of ovarian abscess in our case. At laparotomy, there was no evidence of spread of infection from adjacent organs as the source of infection. Pre existing salpingitis/ infected ovarian cyst/tumor could not be ruled out. Thus, the proposed mechanism in our patient could be flare up of an underlying adnexal disease or spread from distant infection.

Women with ovarian abscess during pregnancy may present with a wide range of clinical symptoms. A woman with a ruptured ovarian abscess presents with features of diffuse peritonitis. An unruptured abscess is more difficult to diagnose because of variable clinical presentation. Most common presenting symptom is an indolent onset of abdominal pain. Diffuse lower abdominal pain may worsen to severe pain associated with anorexia, nausea and vomiting in case of rupture. Low-grade fever may be the only presentation in 50% of cases. Fetal loss rate of 50% has been reported most often as spontaneous septic abortions. A delay in diagnosis may be associated with risk of maternal death and can be detrimental to the fetus as well. Surprisingly, our patient did not have any symptom till term. Noninvasive diagnostic modalities including ultrasound and MRI may help in early diagnosis of this unusual complication of pregnancy.

Unruptured abscess may be given supportive care and treated by preoperative broad-spectrum intravenous antibiotics effective against gram positive, gram negative

and anaerobic bacteria for at least 72 hours before operative intervention. Ruptured tuboovarian abscess requires an aggressive and primarily surgical approach in order to minimize catastrophic sequelae. Since most women tend to be young, one should attempt conservative surgery if pathology is limited to only one adnexa (8).

Surgical drainage of ovarian abscess and conservative surgical procedure under antibiotics are recommended during pregnancy, albeit there is no consensus on patient management (9). Fertility rate following ovarian abscess management may be relatively better when compared with tuboovarian abscess as tubal mucosa is spared (10).

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