Case Report

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Report of a Case with Simultaneous Ovarian Cyst Torsion and Ectopic Pregnancy in the Right Adnexa after Spontaneous Pregnancy

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ABSTRACT

BACKGROUND AND OBJECTIVE: Ovarian torsion and ectopic pregnancy occur in 2.7 and 2% of all pregnancies, respectively, and both are known as gynecologic emergencies. The simultaneous occurrence of these two cases is rare. This study reports a case with simultaneous ovarian torsion and ectopic pregnancy.

CASE REPORT: The patient is a 31-year-old woman with history of two abortions, who referred with a history of 6-week missed menstrual period and vaginal bleeding from one day before and abdominal colic pain accompanied by two occasions of nausea and vomiting. In ultrasonography, cyst was reported to be 54 × 60 mm in right ovary and moderate free fluid was found in cul de sac, while serum HCGβ levels were more than 1000. Due to the exacerbation of abdominal pain, emergency laparotomy was performed, which revealed ruptured ectopic pregnancy and ovarian torsion with active bleeding and a 7×6 cm cyst in the same side with two rounds of torsion. Open torsion, right salpingectomy and cystectomy were performed. The patient was discharged 48 hours after the operation with a good general condition and without serious complication, and there was no problem during the 6-week postoperative follow-up.

CONCLUSION: Simultaneous occurrence of ovarian torsion and ectopic pregnancy is rare, but it is likely to occur. Therefore, early diagnosis to maintain future pregnancies and preserve the ovary is important and suitable medical measures may prevent the unwanted side effects in these patients.

KEYWORDS: *Ectopic Pregnancy, Ovarian torsion, Laparotomy, Pregnancy, Ovarian cyst.*

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Introduction

Ectopic pregnancy and ovarian torsion both are known as gynecologic emergencies (1). Ectopic pregnancy refers to the implantation of an ectopic gestational sac (2). The incidence of ectopic pregnancy includes 2% of all pregnancies in the United States. Still, one of the reasons for women's mortality in the first trimester is perforated ectopic pregnancy (3, 4). Analysis of urine, serum HCGβ and transvaginal ultrasound have made it possible to detect ectopic pregnancy faster (5).

Abnormal anatomy of the fallopian tube is the cause of many cases of ectopic pregnancy (4). Surgeries for previous tubal pregnancy and sterilization are also among the risk factors (4). History of pelvic inflammatory disease, infertility, and the use of assisted reproductive techniques are among other risk factors for ectopic pregnancy (6). In case of delayed diagnosis, clinical manifestations are associated with delayed menstrual bleeding, pain and vaginal bleeding (7). However, it is now possible to detect faster using transvaginal ultrasound and HCGβ titration (5). The ovarian torsion is uncommon and refers to the complete or partial twist of the ovary around its vascular base and the blockage of the venous and arterial blood flow (8, 9). Commonly, ovarian torsion is accompanied by cysts or ovarian tumors, and in most cases, the mature cyst is teratoma. Torsion is also one of the causes of emergency obstetric surgery, and the prevalence is 2.7% (10). Ovarian torsion occurs in women of all ages (11).

However, ectopic pregnancy occurs only at reproductive age. Simultaneous occurrence of torsion and ectopic pregnancy is rare (1). So far, only a few cases of their simultaneous occurrence have been reported (12). DiLuigi et al. for the first time reported a case of ectopic pregnancy with torsion adnexa on the opposite side in a 23-year-old woman after her pregnancy. She underwent emergency laparotomy, had left adnexal torsion, and right side ruptured ectopic pregnancy (2). Murat et al. reported a rare case of ectopic pregnancy with adnexal torsion in the opposite side in a 26-year-old woman, and right salpingectomy, opening of the ovarian torsion and cystectomy were performed during laparotomy (1).

Mohapatra et al. reported a case of adnexal torsion in a 24-year-old female with heterotopic pregnancy, with left adnexal torsion and ectopic pregnancy on the same side; salpingo – oophorectomy was performed and intrauterine pregnancy continued (13). DeCherney et al. reported a case of heterotopic pregnancy and adnexal torsion in a 31-year-old woman following an ovulation induction and intrauterine insemination (3). In most cases of simultaneous occurrence of ectopic pregnancy and adnexal torsion, the torsion was reported in the adnexa on the opposite side, while in our patient, adnexal torsion and ectopic pregnancy were on the same side (3). Here, we introduce a patient who experienced ruptured ectopic pregnancy and adnexal torsion at the same time, after spontaneous pregnancy at six weeks gestational age. With proper diagnosis, appropriate surgical procedures including salpingectomy and cystectomy were performed for the patient. The purpose of this report is to introduce two cases of abdominal emergency.

Case report

The patient is a 31-year-old woman with history of two abortions, who referred with a history of vaginal bleeding from one day before and abdominal pain in the LLQ area several hours ago. The gestational age was six weeks, based on the date of the last menstruation. The abdominal pain was initially colic and gradually became persistent.

Nausea and vomiting were mentioned two times, but there was no dizziness. The experiences of two consecutive abortions were 8 years and 7 years ago, and one session of curettage. The vital signs were stable at arrival (PB=110.70, T=37, PR=90), and brief RLQ tenderness was observed in abdominal examination. There was no cervical motion tenderness in bimanual examination. The test results of vaginal bleeding were as follows: WBC=10.000, Hb=11.5 mg/dl, HCT=35%, BHCG=1468 mIU/ml.

According to abdominal ultrasound, uterus size was 51×110 mm, endometrial line was 11 mm and there was no gestational sac in the uterus. A 51×60 mm cyst was found in the right ovary with simple view, another 31×42 mm cyst was found at its proximity and an average amount of free fluid was found in the posterior cul de sac. (Fig 1,2)

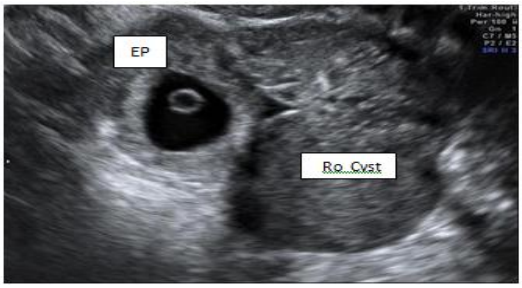

Figure 1. Right ovarian cyst with right ectopic pregnancy

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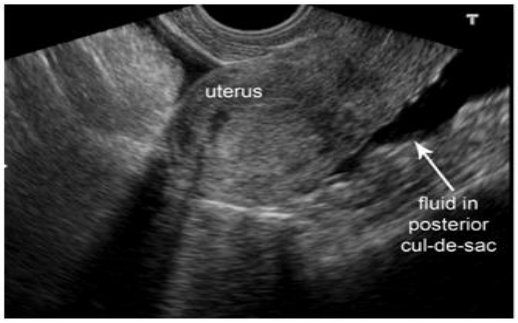

Figure 2. The uterus is accompanied by fluid accumulation in the posterior cul de sac

Two hours after admission, the patient's pain intensified. In Doppler ultrasound, the venous and arterial blood flow was not observed in the right ovarian cyst. Considering the Doppler ultrasound report and the probability of the ovarian cyst torsion, the patient underwent laparotomy. About 100 cc blood was in the abdomen after Pfannenstiel incision. The perforated ectopic pregnancy was active at 2 × 3 cm in the right tube in the area of the ectopic, and right saphenectomy was performed.

A 6×7 cm cyst was observed in the right ovary, which had two rounds of torsion around the infundibulopelvic vascular base, while necrosis and gangrene did not occur. First, torsion was opened and then cystectomy was performed while preserving the ovary. According to the pathologic result, the cysts of the yellow body occurred simultaneously with ruptured ectopic pregnancy. After 48 hours of hospitalization, the patient was discharged with a good general condition and had no special problem, and during the follow-up period of 6 weeks there was no specific complication.

Discussion

In this case report, both ectopic pregnancy and ovarian torsion occurred on the same side. In most previous case reports, in ectopic pregnancy occurred on one side and adnexal torsion occurred on the opposite side (1–3). Risk factors for ovarian torsion include ovarian mass, the big size of yellow body cysts, overstimulation of ovaries and pregnancies (8). In fact, 12 to 18 % of cases of ovarian torsion occur during pregnancy (8). In most reported cases, right ovarian torsion was dominant (2). There are two theories in explaining this: first, the left ovary is less mobile due to the presence of sigmoid, and second, there is a difference in the venous drainage system in the ovary (3). The ovarian torsion has two complete or relative types, the ovary turns around its vascular base. Venous or lymphatic obstruction leads to arterial blood flow stasis and ultimately congestion of the ovarian stroma hemorrhagic infarction, gangrene and necrosis (9). The symptoms of torsion are nonspecific and are classically located in the lower abdominal tenderness in the examination and there are signs of the peritoneal (8). In patients with torsion, abdominal pain occurs in 100% of cases, vomiting occurs in 85% of cases, leukocytosis occurs in 56% of cases, and an increase in body temperature occurs in 18% of cases (1).

Imaging studies can be helpful. Doppler sonography is diagnostic in 40% of cases. This kind of ultrasound has low sensitivity but has high specificity. All cases with lack or reduction of current in the Doppler system were 100% torsion, when they undergo laparotomy with a diagnosis of torsion. But physicians should note that the absence of the torsion report in the Doppler does not necessarily reject it (2). The primary diagnosis of ovarian torsion should be based on clinical suspicion (1). In the past, radical salpingo–oophorectomy was performed without initial opening of the torsion; its failure to do so was twisted from the pedicle due to the fear of embryo necrotic material (12).

In recent years, no cases of thromboembolic events have been reported due to torsion's opening. Consequently, preservative therapy is recommended to maintain fertility. Even for ovaries that are initially unconscious and change color to violet or black, cystectomy and torsion opening are the primary treatments. In women who do not want to maintain fertility, salpingo – oophorectomy is recommended (2). Approximately, 1–2% of all pregnancies are ectopic pregnancy and is still one of the main causes of death in the first trimester of pregnancy. The initial diagnosis of ectopic pregnancy can be difficult.

This early diagnosis is based on clinical examination, history, HCGβ titration and ultrasound findings. HCGβ titration below 1500 combined with transvaginal ultrasound has 100% sensitivity and 99% specificity (4). In the introduced patient, infertility is one of the risk factors for ectopic pregnancy. In stable conditions, patients diagnosed with ectopic pregnancy can be candidates for methotrexate and, in unstable conditions, are candidates for laparoscopy and laparotomy (11). Simultaneous occurrence of ectopic pregnancy and ovarian torsion is rare (1). Since delay in the detection of torsion can lead to ovarian loss and

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reduced fertility, patients diagnosed with nonspecific symptoms, such as lower abdominal pain, nausea and leukocytosis, should be aware of both (2). DiLuigi et al. reported an ectopic pregnancy with adnexal torsion on the opposite side in a 23 – year – old woman after her pregnancy, and according to emergency laparotomy, left adnexal torsion and ruptured ectopic pregnancy took place simultaneously (2).

The torsion of the adnexa on the right is usually more common. In our patient, adnexal torsion and ectopic pregnancy were both on the right side. Murat et al. also reported a rare case of ectopic pregnancy with adnexal torsion in the opposite side in a 26 – year – old woman who performed laparotomy with right salpingectomy and opening of ovarian torsion and cystectomy (1). In our patient, unlike this case, both pathologies were in one side. Mohapatra et al. reported a case of adnexal torsion in a 24 – year – old woman with heterotopic pregnancy that had left-sided adnexal torsion and ectopic pregnancy in the same position, salpingo–oophorectomy was performed and intrauterine pregnancy continued (13). In this case, similar to our patient, ectopic pregnancy and ovarian torsion were both in one side. DeCherney et al. reported a case of heterotopic pregnancy and adnexal torsion in a 31 – year – old woman after an ovulation induction and intrauterine insemination (3).

In most cases of simultaneous occurrence of ectopic pregnancy and adnexal torsion, torsion was in the opposite adnexa, while in the patient, ectopic pregnancy and adnexal torsion occurred in one side (3). Simultaneous occurrence of ectopic pregnancy and ovarian torsion is rare and both are women's emergencies. Early diagnosis is important for preserving future fertility and ovary and preventing unwanted complications.

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