HETEROTOPIC PREGNANCY IN NATURAL CONCEPTION – OUR INITIAL EXPERIENCE: CASE REPORT

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SUMMARY – Heterotopic pregnancy refers to the presence of simultaneous pregnancies at two different implantation sites. Heterotopic pregnancy is rare, estimated to occur in 1 *per* 30,000 pregnancies. We report a case of a 27-year-old woman presented to the emergency department with the diagnosis of ruptured ectopic pregnancy. Careful ultrasound assessment indicated the diagnosis of heterotopic pregnancy. Right salpingectomy with removal of the hemoperitoneum and suction curettage were performed. Our operative diagnosis of heterotopic pregnancy was confirmed by histopathology. Heterotopic pregnancy can occur in the absence of any predisposing risk factors, and the detection of intrauterine pregnancy does not exclude the possibility of the simultaneous existence of ectopic pregnancy. Transvaginal ultrasound and assessment of the whole pelvis, even in the presence of intrauterine pregnancy, can be an important aid in the diagnosis of heterotopic pregnancy.

Key words: *Pregnancy, ectopic – diagnosis; Pregnancy, ectopic – surgery; Case report*

Introduction

Heterotopic pregnancy refers to the presence of simultaneous pregnancies at two different implantation sites[1]. Most often, these sites are a combination of intrauterine and ectopic pregnancies, rather than two ectopic pregnancies. The majority of ectopic pregnancies occur in the fallopian tube (90 percent); however, implantation in the cervix, ovary, interstitial (cornual) tubal segment, abdomen and previous cesarean scar has been reported[2-4]. Heterotopic pregnancy is rare, estimated to occur in 1 *per* 30,000 pregnancies[5]. We report on a woman who presented with intra-abdominal bleeding that was found to be due to ruptured tubal pregnancy in the presence of intrauterine pregnancy.

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Case Report

A 27-year-old woman, para 2, gravida 3, presented to the emergency department with a history of severe lower abdominal pain of three-hour duration, a brief episode of the loss of consciousness, dizziness, fainting attack and palpitation. She reported 6-week amenorrhea, but had never been to an antenatal clinic. On examination, she was pale with a pulse rate of 120 *per* minute and blood pressure of 90/60 mm Hg. Abdominal examination revealed diffuse, lower abdominal tenderness with significant guarding and rigidity. Pelvic examination revealed an anteverted, enlarged, soft and tender uterus. In addition, a tender mass was also palpable in her right adnexa. Cervical movements were painful but there was no bleeding. Complete blood count showed hemoglobin 90 g/L, hematocrit 0.26 and white blood count 18.5×10^9/L. Transvaginal sonography revealed 5-week intrauterine pregnancy, a 2.3x1.8 cm echogenic mass near her right ovary with a 1.0x0.7 cm central anechoic area, and the presence of free fluid in the cul-de-sac space. The diagnosis of heterotopic pregnancy with tubal rupture was made.

The patient gave her written consent for operation and termination of intrauterine unwanted pregnancy. Culdocentesis and laparoscopy were not used because of the patient's poor general health condition. Emergency laparotomy was performed *via* transverse suprapubic incision. There were about 1.5 liters of fresh blood in the peritoneal cavity and a ruptured right fallopian tube, which was bleeding. Right salpingectomy with removal of the hemoperitoneum and peritoneal lavage was performed. After dilatation of the cervix, suction curettage and removal of the uterine contents were performed and sent for histopathologic analysis in separate from the right salpinx. The patient was transfused with four units of blood during and after the surgery. Histopathologic diagnosis was: *I Graviditas tubaria; II Residua graviditatis*. The pathology specimen of the affected tube showed no signs of inflammation. Our operative diagnosis of heterotopic pregnancy was confirmed with this histopathologic finding. On postoperative day 7, the patient was discharged from the hospital.

Discussion

Heterotopic pregnancy can occur in the absence of any predisposing risk factors, and the detection of intrauterine pregnancy does not exclude the possibility of the simultaneous existence of ectopic pregnancy[6]. The occurrence of heterotopic pregnancy is considered rare in natural conception cycles, with an incidence of 0.08%, but the incidence increases to as high as 1% with assisted reproductive techniques[7]. This is especially true in countries with active *in vitro* fertilization programs[8]. It occurs because of transfer of embryos by assisted reproductive techniques into affected tubes, while peristaltic movements fail to enable the embryo to reach uterine cavity as a unique favorable site of insertion. The common factors that predispose to the occurrence of ectopic pregnancy are tubal surgery and pelvic inflammatory diseases[7,9]. Considering the mechanisms of tubal pregnancy during *in vitro* fertilization (IVF), some authors accentuate the prominent role of endosalpingeal disease preventing returning of dislocated embryos by assisted reproductive techniques[10]. The patient in this report had no history of previous gynecologic procedures, and her pregnancy was the result of natural conception.

Kasum *et al*.[11] published the first report on successful evacuation of a ruptured interstitial pregnancy and repair of the site of rupture, with coexisting intrauterine twins after IVF embryo transfer progressing until 36 weeks.

Early diagnosis of heterotopic pregnancy is often difficult because of the absence of clinical symptoms. Reece *et al*.[5] defined abdominal pain, adnexal mass, peritoneal irritation and an enlarged uterus as signs and symptoms suspect of heterotopic pregnancy. Transvaginal ultrasonography is an inevitable diagnostic tool in every pregnant woman in order to diagnose intrauterine, as well as pregnancy in neighboring sites like cornual pregnancy, fallopian tube pregnancy, ovarian site, etc. Transvaginal ultrasound and assessment of the whole pelvis, even in the presence of intrauterine pregnancy, can be an important aid in the diagnosis of heterotopic pregnancy[7]. High-resolution transvaginal ultrasound with color Doppler will be helpful as the trophoblastic tissue in the adnexa in case of heterotopic pregnancy shows increased flow with significantly reduced resistance index. A review of recent literature (1994-2004) showed that out of 80 cases, 21 were diagnosed by ultrasound and 59 at laparoscopy or laparotomy[7].

The following conditions in women in generative period can mask ectopic pregnancy-adnexal sites: ovarian cyst torsion (endometriotic, follicular, luteal), paraovarian cyst torsion, tuboovarian inflamed tumor, etc. Intrauterine gestation with hemorrhagic corpus luteum can simulate heterotopic/ectopic gestation both clinically and on ultrasound[12]. Other surgical conditions of acute abdomen can also simulate heterotopic gestation clinically and hence the difficulty in clinical diagnosis. Bicornuate uterus with gestation in both cavities may also simulate heterotopic pregnancy[13]. Culdocentesis is an important aid in diagnosis when hemoperitoneum is present[14]. Serial b-HCG levels are not of much significance in the diagnosis of heterotopic pregnancy as subnormal hormone production by an ectopic pregnancy may be masked by the higher placental production from the intrauterine pregnancy[6].

The standard treatment for ectopic pregnancy is surgery by laparoscopy or laparotomy depending on the condition of the patient. Fertility results have been found to be the same after laparoscopy or lapa-

rotomy. Conservative or radical surgery may be done depending on the condition of the contralateral tube. The main aim of the surgery should be preservation of the intrauterine pregnancy with minimal manipulation of the uterus[6]. In a stable patient with intact tubal pregnancy, ultrasound-guided injection of potassium chloride into the adnexal mass can be safely used[15,16]. In the patient reported here, urgent laparotomy was performed because of hemodynamic instability of the patient and the obvious need to get immediate control of the bleeding site. Regarding the fact that our patient insisted on termination of the intrauterine pregnancy, suction curettage was performed.

Conclusion

The literature reveals that heterotopic pregnancy is much more common than once believed, especially in those patients undergoing assisted reproduction. Heterotopic pregnancy can occur in the absence of any predisposing risk factors, and the detection of intrauterine pregnancy does not exclude the possibility of the simultaneous existence of ectopic pregnancy. This case demonstrates the need for emergency clinicians to be aware of the possibility of heterotopic pregnancy.

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Sažetak

HETEROTOPNA TRUDNOĆA KOD PRIRODNOG ZAČEĆA – NAŠE PRVO ISKUSTVO: PRIKAZ SLUČAJA

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Heterotopna trudnoća odnosi se na istodobnu prisutnost intrauterine i izvanmaterične trudnoće. Učestalost heterotopne trudnoće je 1 na 30.000 trudnoća. Prikazuje se slučaj 27-godišnje pacijentice koja se javila na hitni odjel s dijagnozom rupturirane ektopične trudnoće. Poslije pažljivog ultrazvučnog pregleda postavljena je dijagnoza heterotopne trudnoće. Napravljena je desna salpingektomija, uklanjanje hematoperitoneuma i vakuumska aspiracija intrauterine trudnoće. Naša operativna dijagnoza heterotopne trudnoće potvrđena je histopatološkim nalazom. Heterotopna trudnoća može se pojaviti u odsutnosti bilo kakvih predisponirajućih čimbenika rizika pa otkrivanje intrauterine trudnoće ne isključuje mogućnost istodobnog postojanja ektopične trudnoće. Transvaginalni ultrazvuk i pregled cijele zdjelice, čak i u prisutnosti intrauterine trudnoće, mogu znatno pomoći u dijagnostici heterotopne trudnoće.

Ključne riječi: *Trudnoća, ektopična – dijagnostika; Trudnoća, ektopična – kirurgija; Prikaz slučaja*