

CASE STUDY

HETEROTOPIC PREGNANCY – CASE REPORT

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ABSTRACT

Heterotopic pregnancy is the simultaneous occurrence of intrauterine and ectopic pregnancy. This situation is very rare (1:30 000 pregnancies), while recently, with the development of assisted reproductive techniques, the incidence has increased to 1:100 – 1:500 pregnancies.

The aim of the study is to present the situation of coexistence of intrauterine pregnancy and ruptured tubal pregnancy.

The case concerns a 32-year-old patient in the 12th week of the second pregnancy in whom the only risk factor was the state after Caesarean section and thus possible intraperitoneal adhesions. The ultrasound revealed normal intrauterine pregnancy and a very large amount of free fluid in the smaller pelvis. After immediate surgical intervention, a ruptured right tubal pregnancy was found. Right fallopian tube was removed. After the operation, the patient with the preserved intrauterine pregnancy was discharged from the ward. Further intrauterine pregnancy was normal. Delivery by Caesarean section.

Conclusions: The described case indicates that the existence of intrauterine pregnancy does not exclude the existence of ectopic pregnancy and emphasizes the great importance of correctly and accurately carried out ultrasound examination in the first trimester of pregnancy along with appendicitis assessment. Early diagnosis of heterotopic pregnancy reduces the risk of complications.

KEY WORDS: heterotopic pregnancy, ectopic pregnancy, intrauterine pregnancy, transvaginal ultrasound

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INTRODUCTION

Heterotopic pregnancy is a rare complication of pregnancy which involves the simultaneous occurrence of intrauterine and ectopic pregnancy. Diagnosing heterotopic pregnancy is very difficult. The incidence of pregnancy in the case of natural fertilization is about 1: 30000 [1, 13], but when using assisted reproduction techniques it is much higher 1:100 – 1:500 [2].

The most important risk factors for heterotopic pregnancy are pelvic inflammatory diseases, intrauterine systems, adhesions, a history of ectopic pregnancy, assisted reproductive techniques and ovarian hyperstimulation syndrome[3,14]. In addition, patients who are part of the assisted reproduction program have additional factors such as more frequent multiple ovulation, more common fallopian tube malformations/fallopian tube damage, and technical factors during embryo transfer that may increase the risk of ectopic and heterotopic pregnancy [4].

The most common symptoms are: abdominal pain – 83%, peritoneal symptoms and shock – 13% and genital bleeding – 50% [5, 12]. Heterotopic pregnancy can cause severe and potentially fatal complications such as peritoneal bleeding, uterine rupture, preterm delivery, and miscarriage [6].

CASE REPORT

A 32-year-old patient gave birth to a healthy, full-term newborn baby by caesarean section four years ago. In the interview, vision defect – subluxation of the lenses of both eyes and glaucoma. From the 5th week of gestation (WG) the patient remained under outpatient care (natural fertilization).

In the 12th week of the second pregnancy, she was brought by the Medical Emergency Team to the Admissions Department of the Gynecology and Obstetrics of the Poviat Hospital (1st degree of reference) due to sudden severe pain in the right iliac fossa. Until then, the pregnancy was normal, the patient had no complaints. On admission to the hospital, a surgeon was consulted, who ruled out the possibility of appendicitis. Blood pressure was 100/70 mm Hg, heart rate 105/min, temperature 37'C. In the physical examination, the abdomen was hard, there was muscle defense, peritoneal symptoms, pallor of the skin, short-term disturbance of consciousness. The patient reported severe pain in the right lower abdomen, dyspnea, nausea. On the gynecological examination: in specula were found: vulva, multiparous crotch, smooth vaginal mucosa, mucus secretion, no bleeding from the cervical canal, cervix clean. Uterus about 10th WG, bilateral tender appendages difficult to assess. Based on an ultrasound examination at the emergency room, a single live fetus was found intrauterine with FHR 180 bpm, CRL – 5.85 cm, which corresponded to 10th week 5th day. A very large amount of free fluid was visible in the smaller pelvis. Laboratory results: CRP 21 mg/l, WBC

9.0, RBC 2.93, HGB 9.2, HCT 27.6%, fibrinogen 3.37 g/l. The medical team decided to perform an emergency laparotomy. Coats of the abdominal cavity were opened by Cohen's transhenomembrane cut. A large amount of liquid blood and blood clots were found in the abdominal cavity. The following was found: the uterus enlarged, softened, corresponding to 11th WG. Left appendages and right ovary unchanged. Right oviduct extended, in the intramural part containing ectopic pregnancy. The right fallopian tube was typically removed. A Redon drainage was inserted into the peritoneal cavity. During the procedure the patient remained haemodynamically efficient; blood loss was estimated at 1000 ml. Intraoperatively, 1 liter of crystalloids, 1 unit of red blood cells concentrate was transfused, prophylactic antibiotic therapy was also included. The duration of the operation was 50 min. The obtained material was sent for histopathological examination.

After the surgery the patient felt well. In subsequent laboratory tests: CRP 116mg / l, WBC 7.7, RBC 2.62 HGB 8.1, HCT 23.7%. In addition to analgesic treatment after surgery: sublingual progesterone, intravenous antibiotic therapy, 1u PRBC and oral iron preparation were applied. On the 7th day of hospitalization, the patient was discharged home with a surviving intrauterine pregnancy.

Histopathological examination revealed a 8 cm long fallopian tube. At a distance of 0.4 cm from the proximal cutting line at a length of 2 cm balloon-distended to a diameter of 2.2 cm. Fallopian tube wall cracked at the site of distension, about 0.4 cm lenght. Final diagnosis: Graviditas extrauterina tubaria rupta. In the fallopian tube visible embryo structure, length of about 0.8 mm.

The patient was hospitalized 4 more times during pregnancy. Due to suspected phlebitis of the lower limbs, diabetes mellitus (3-4 U Insulin) at 28 WG and threatening preterm labor in 34 WG and 35 WG. At week 38 she came to the hospital because of premature rupture of the fetal bladder. The caesarean section was performed. A successful full term neonate male was delivered with a birthweight of 4160g, 56 cm long, 10 points on the Apgar score.

DISCUSSION

According to Tal et al., 70% heterotopic pregnancies are detected between 5 and 8 weeks of pregnancy[5]. The presence of intrauterine pregnancy makes it difficult to diagnose heterotopic pregnancy. The most common mistake is to exclude ectopic pregnancy after finding intrauterine pregnancy without ultrasound examination of the appendages. According to Talbot, 71% of heterotopic pregnancy cases had one risk factor, while 10% had three or more risk factors. Therefore, accurate assessment of risk factors is very important, which may lead to a correct diagnosis but must be complemented with ultrasound examination [7].Transvaginal ultrasound is one of the most important methods in diagnosis, however, it is characterized by low sensitivity – from 26.3% to 92.4%, which shows that the experience of ultrasonographist is an important element in the diagnosis of heterotopic pregnancy. A significant problem in ultrasound is the proper differentiation of ectopic pregnancy from corpus luteum or hemorrhagic cysts [7-8]. Patients who conceived using assisted reproductive techniques (IVF, IVF-ET) deserve particular attention during ultrasound examination in early pregnancy. Lyu et al. recommend performing a vaginal ultrasound examination in every woman after in vitro fertilization 4 weeks after embryo transfer [9]. In the reported case, heterotopic pregnancy was taken for a healthy intrauterine pregnancy, probably because the attending physician did not examine the appendages by ultrasound.

The most common method of treatment is surgery. The scope of surgery depends on the patient's clinical condition, in most cases this involves the removal of the ovary/fallopian tube [6-7]. During surgery, uterine manipulation should be minimal to protect the intrauterine pregnancy from complications. Tal et al. showed in 139 women with heterotopic pregnancy treated mainly by surgical methods that the intrauterine pregnancy preservation rate was 66% [5]. Li et al., in hemodynamically unstable women recommend surgery in the event of heterotopic pregnancy rupture [10]. Similarly, Ecom et al. during surgery for heterotopic pregnancy recommend mainly salpingectomy, salpingotomy or ovariectomy, and in some difficult cases hysterectomy [11].

CONCLUSIONS

The presence of intrauterine pregnancy does not exclude the presence of ectopic pregnancy. It should always be remembered that a woman of childbearing age potentially may experience heterotopic pregnancy. In the presented case, the pregnancy was carried out as an intrauterine pregnancy with a normal course and therefore was not recognized. This could have been avoided if detailed transvaginal ultrasound had been performed in proper time The appendages should be examined in every woman in early pregnancy, especially if the pregnancy is the result of in vitro fertilization and when accompanied by clinical symptoms such as abdominal pain, fluid in the Douglas Bay or hypovolemic shock. Surgical treatment of heterotopic pregnancy can contribute to maintaining intrauterine pregnancy and its successful delivery.

REFERENCES

1. Hassani KI, Bouazzaoui AE, Khatouf M, Mazaz K. Heterotopic pregnancy: A diagnosis we should suspect more often. J Emerg Trauma Shock 2010;3:304.
2. Korkontzelos I, Antoniou N, Stefos T, Kyparos I, Lykoudis S.: Ruptured heterotopic pregnancy with successful obstetrical outcome: A case report and review of the literature. Clin Exp Obstet Gynecol 2005;32:203–206.
3. Fatema N, Al Badi MM, Rahman M, Elawdy MM. Heterotopic pregnancy with natural conception; a rare event that is still being misdiagnosed: A case report. Clin Case Rep 2016;4:272–275.
4. Kirk E, Bottomley C, Bourne T. Diagnosing ectopic pregnancy and current concepts in the management of pregnancy of unknown location. Hum Reprod Update 2014;20:250–261.

5. Tal J, Haddad S, Gordon N, Timor-Tritsch I. Heterotopic pregnancy after ovulation induction and assisted reproductive technologies: a literature review from 1971 to 1993. Fertil Steril 1996;66:1–12.
6. Yu Y, Xu W, Xie Z, Huang Q, Li S. Management and outcome of 25 heterotopic pregnancies in Zhejiang, China. Eur J Obstet Gynecol Reprod Biol 2014;180:157–161.
7. Talbot K, Simpson R, Price N, Jackson SR.: Heterotopic pregnancy. J Obstet Gynaecol 2011;31:7–12.
8. Barrenetxea G, Barinaga-Rementeria L, Lopez de Larruzea A, Agirregoikoa JA, Mandiola M, Carbonero K. Heterotopic pregnancy: Two cases and a comparative review. Fertil Steril 2007; 87:417.
9. Lyu J, Ye H, Wang W, et al. Diagnosis and management of heterotopic pregnancy following embryo transfer: Clinical analysis of 55 cases from a single institution. Arch Gynecol Obstet 2017;296:85–92.
10. Li JB, Kong LZ, Yang JB, Niu G, Fan L, Huang JZ. et al.: Management of heterotopic pregnancy: Experience from 1 tertiary medical center. Medicine (Baltimore) 2016; 95: e2570.
11. Eom JM, Choi JS, Ko JH, Lee JH, Park SH, Hong JH. et al.: Surgical and obstetric outcomes of laparoscopic management for women with heterotopic pregnancy. J Obstet Gynaecol Res 2013;39:1580–1586.
1. O'Donnell R, Siacunco E, Quesada D, Barkataki K, Aguìñiga-Navarrete P. Early Diagnosis of Heterotopic Pregnancy in a Primigravid Without Risk Factors in the Emergency Department. Clin Pract Cases Emerg Med. 2019;3(2):162-163.
2. Karkee R, Sharma A, Dangal B. Heterotopic Pregnancy: A Challenge in Early Diagnosis. J Nepal Health Res Counc. 2019;17(3):413-415.
3. Nabi U, Yousaf A, Ghaffar F, Sajid S, Ahmed MMH. Heterotopic Pregnancy – A Diagnostic Challenge. Six Case Reports and Literature Review. Cureus. 2019;11(11):e6080..

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Conflict of interest
Authors declare no conflict of interest

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