JMS 2019;2(1):48-52
UDC:618.12-089.87:618.31

SIMULTANEUS INTRAUTERINE AND EXTRAUTERINE PREGNANCY

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Abstract

The aim of this report is to present a rare case of early recognized intrauterine and extrauterine pregnancy.

The case refers to 25-year-old patient, pregnant for the first time, who had not been stated any heterotopic pregnancy incidence risk factors. After she became in the hospital in bad condition the observation was made and the presence of a living intrauterine and coexisting extrauterine pregnancy located in the right oviduct was stated. The patient had her right oviduct removed by means of laparoscopy. After the surgery the patient with the living intrauterine pregnancy was released from the hospital. Further course of intrauterine pregnancy was normal. The patient gave birth at her expected delivery date.

Clinical examination, ultrasound, salpingectomy and definitely confirmed diagnose with a standard procedure of paraffin embedded sections of tube, routinely stained with H&E.

The presented case indicates the significance of correctly and carefully diagnosis. It is a warning for the doctors performing ultrasound examinations in the early weeks of pregnancy – the visualization of a normal pregnancy in the ultrasound examination does not release the examiner from a necessity of precise imaging of adnexa of the uterus.

Key words: pregnancy, ectopic pregnancy, diagnosis, pathohistological finding

Introduction

Simultaneous presence of intrauterine and ectopic pregnancy was first reported in the year 1708 as an autopsy finding [1]. The term "ectopic" comes from the Greek "ektopis" meaning "displacement" ("ek", out of + "topos", place = out of place). The first person to use "ectopic" in a medical context was the English obstetrician Robert Barnes (1817-1907) who applied it to an extrauterine pregnancy: an ectopic pregnancy [2].

Heterotopic pregnancy is a rare and dangerous life threatening condition that is difficult to diagnose and easily missed [3]. The estimated incidence in the general population is between 1 in 30000 natural conception while a rate as high as 1 in 8000 has been reported [4]. The risk has increased after the widespread use of ovulation induction therapies and assisted reproductive techniques. Simultaneous intra-uterine and ectopic pregnancy occurring spontaneously is a relatively rare event, occurring in approximately 1 in 30 000 pregnancies [5]. The reported incidence varies, from 1:100 to 1:500 with the use of assisted reproductive technology [6]. Commonly the ectopic pregnancy is within the fallopian tube and uncommonly in the cervix or ovary [7]. Although the extrauterine implantation site in heterotopic pregnancies is most commonly tubal (88.2%), abdominal implantation has also been observed (2.7%) [8]. Ovarian ectopic pregnancy by themselves are uncommon, accounting for only 1–3% of all ectopic pregnancies [9]. In tubarian pregnancies the outcome depends on the localisation of the fertilised egg in the inside of the tube. Ampullary pregnancies end up with tubarian abortion in most of the cases, while on the other hand, pregnancies that occur on the isthmus of the Fallopian tube end up with rupture of the tubarian wall. Heterotopic pregnancy can occur in the absence of any predisposing risk factors, and the detection of an intrauterine pregnancy does not exclude the possibility of the simultaneous existence of an ectopic pregnancy [10].

In addition, we present a rare case of simultaneous pregnancy with intrauterine gestation and extrauterine tubal pregnancy.

Case report:

A 25-year-old primipara in 6th week of the pregnancy came to the hospital at night because of lasting for 24 hours vaginal bleeding , abdominal pain and vomitus. The patient had regular menstrual cycles, not undergone surgeries, suffered from no chronic diseases, no extrauterine pregnancy risk factors were stated in the medical interview. Ultrasound showed intrauterine pregnancy and abdominal fluid. After a vaginal ultrasound was performed a suspicious finding for ectopic pregnancy was determinated. At clinical examination the uterus was as size of a hand, soft and with no rigidity on palpation, and with a feeling like it was "flooding in fluid". The hypogastrium was highly sensitive and painful on palpation. Because of the diagnosis of living intrauterine pregnancy and the suspicion of the coexistence of the right extrauterine pregnancy, the patient was qualified for surgical treatment . So, laparathomy was performed. Intraoperatively the following was stated: 1000 ml hemorrhagic fluid was found in the abdominal cavity, the wall of the right tube was thinner with visible perforation through the wall from the previously suspected ectopic pregnancy. Right salpingectomy was done and the surgical material was send to the Institute of Pathology in Skopje for a desiderate histopathological analysis.

Delivered operative material represented a fallopian tube with spindly dilated central parts with measured diameter of 1.5 cm. Tubal wall was thinner, dark blue coloured, with perforation, and the lumen of the tube was filled with blood. Histopathological features were studied on Haematoxylin and Eosin stained sections. Histological analysis showed a finding of chronic inflammation of the tube. Mucose was composed of a fibrotic altered stroma with villi, infiltrated by chronic inflammatory infiltrate coated with a regular ciliary tubal epithelium. In the dilated part of the tube, mucose was deciduated and the wall destructed with fresh bleedings. The lumen was enlarged and in the bloody content of the tube chorionic villi were fitted. A diagnose of extrauterine, tubal pregnancy and chronic salpingitis was made.

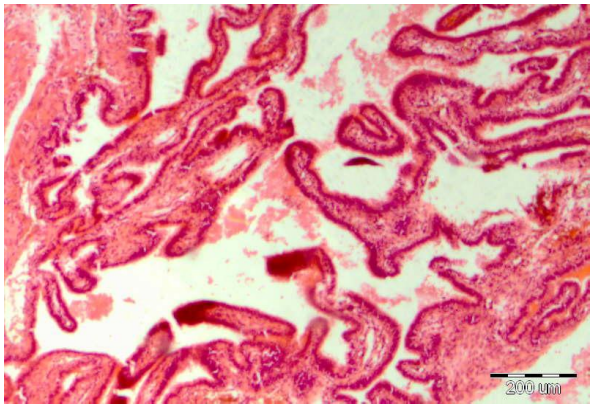


Figure 1. Fibrotic altered stroma with villi, infiltrated by chronic inflammatory infiltrate-salpingitis chronica

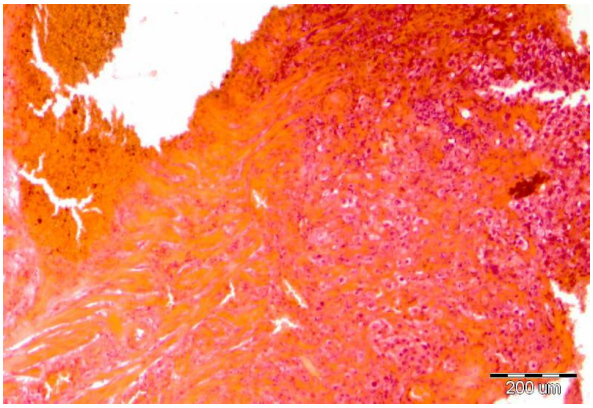
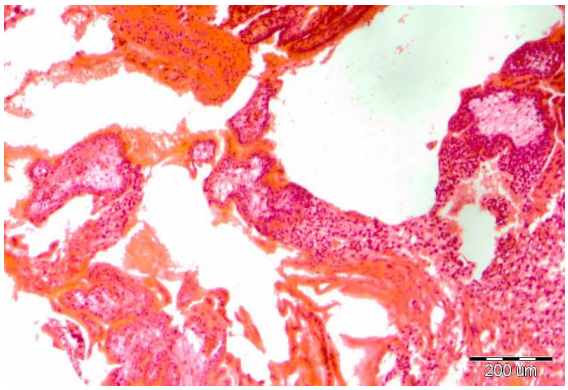


Figure 2: Ruptured wall with fresh bleedings and deciduated stroma



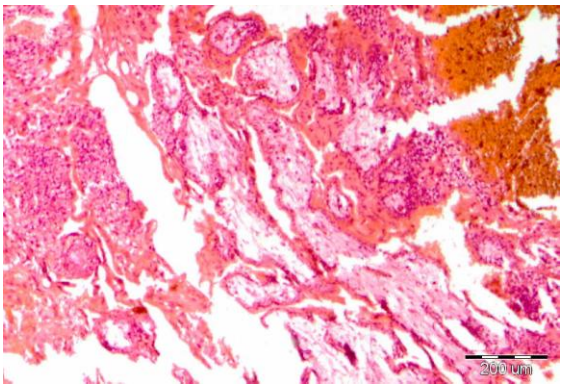


Figure 3 and 4. Chorionic villi, deciduated mucosa and fresh bleedings

The patient was discharged from hospital in a stable condition. The further development of the uterine pregnancy was without any complications. A healthy female was delivered in 36.4 week of the pregnancy, with newborn measurements 2630gr/49cm.

Discussion

When we talk about simultaneous uterine and ectopic pregnancy, we talk about a condition with an ethiopathogenesis that is still not clear but it is thought to be the same complex interplay that leads to ectopic pregnancy by itself. Anatomic and functional changes that occur on tubarian walls after inflamatory pelvic diseases are frequently the reason for ectopic pregnancies and simultaneous uterine and ectopic pregnancies furthermore [11, 12].

It has been observed that after the stimulation of ovulation with Clomiphene Citrate and other medicaments, concomitant extrauterine and intrauterine pregnancy are more common, because more follicules develop under the action of these drugs, which is why multiple pregnancy occur [13].

Gemzell and Ross found that 5% of women taking these drugs had multiple pregnancy and Berger and Taylor said that of 100 women who remained pregnant with ovulation stimulation, one occurs with simultaneous intrauterine and extrauterine pregnancy [14] .

Honore and Nickerson consider that in double ovulation, the first fertilized egg passes through the tube and is implanted in the mucous membrane of the uterus, and the egg from the other follicle remains in the tubal cavity due to slow transport, under the actions of progesterone which acts depressingly on the ciliary activity of the epithelium of the fallopian tube and the motility of myosalpinx [15].

In recent years, it has been observed that after surgical interventions of the fallopian tubes due to ectopic pregnancy,it often comes to repeated pregnancy in the tube and sometimes simultaneous intrauterine and extrauterine pregnancy [16]. Occurrence of concomitant extrauterine and intrauterine pregnancy has been described also after sterilization by tubal ligation [17]. A simultaneous intrauterine and extra uterine pregnancy in a woman with an intrauterine spiral [18] has also been described. In about 30% of the cases concomitant intrauterine and extrauterine pregnancies are dangerous for the mother and the fetus, that is born alive [19].

In the early pregnancy it is hard to diagnose intrauterine and extrauterine pregnancy in the same time. In the beginning the most common symptoms are: enlarged uterus, amenorrhea, nausea and vomiting, which are usually seen in the intrauterine pregnancy as well. In an advanced stage of pregnancy the signs and symptoms that are characteristic for ectopic pregnancy includes: pain in low abdomen, peritoneal sensitivity, and palpabal mass in small pelvis. The pain may be described as sharp, dull or crampy. However, most frequent symptoms described by some authors are: abdominal pain – 80%, body of the uterus enlargement – 42%, vaginal bleeding – 32% [20].

Heterotopic pregnancy with both intra and extrauterine pregnancy should be diagnosed and treated in the first trimester. It is estimated that 10–14% of heterotopic pregnancies is diagnosed preoperatively [1, 20]. The diagnoses percentage changes depending on the pregnancy duration. Heterotopic pregnancies in 70% of cases are diagnosed between 5th and 8th week of gestation, similarly as in the pregnancy described by us, in 20% between 9^{th} and 10^{th} week and in 10% in 11^{th} week of gestation [21]. There are also reports about heterotopic pregnancies diagnosed in 16^{th} and 18^{th} week [22]. It seems that the assessment of units of beta chorionic gonadotropin in the diagnostics of such cases is little useful because the dynamics of concentration changes of this marker is not characteristic for this abnormality and additionally the presence of developing intrauterine pregnancy makes the result interpretation difficult.

The key of treatment in both intra and extrauterine pregnancy is early diagnosis and proper intervention. This could avoid severe bleeding which may occur in the abdominal cavity and affect the embryo development from the intrauterine pregnancy. Salpingectomy is usually done in tubal ectopic pregnancy. In this cases wedge-shaped removal (V-shaped wedge) is replaced with less aggressive tubal removal distal from the uterus. This is important to avoid unnecessary harassment of the uterus and possible disturbance in intrauterine pregnancy.

It is estimated that intrauterine pregnancy after the abortion of extrauterine pregnancy develops normally in 65–92% of cases [1, 20]. Reece submitted for analysis 37 patients with diagnosed heterotopic pregnancy after surgical treatment of extrauterine pregnancy and in his study 75.6% of the patients gave birth around their expected delivery date, 16.2% prematurely and 3% of pregnancies ended with a miscarriage [1]. In the described case the course of the intrauterine pregnancy was normal – the patient gave birth to a healthy newborn. On the other hand, it should be remembered that the coexistence of extrauterine pregnancy with intrauterine pregnancy may be threatening not only for the developing fetus in the uterus but also for the mother because the mortality of women in such cases equals 1% [1, 20].

Conclusion

The presented case indicates the significance of correctly and carefully diagnosis. It is a warning for the doctors performing ultrasound examinations in the early weeks of pregnancy – the visualization of a normal pregnancy in the ultrasound examination does not release the examiner from a necessity of precise imaging of adnexa of the uterus.

References

1. Reece EA, Petrie RH, Sirmans MF, Finster M, Todd WD. Combined intrauterine and extrauterine gestations: a review. Am J Obstet Gynecol. 1983;146(3):323-30.
2. Bright DA, Gaupp FB. Heterotopic pregnancy: a reevaluation. J Am Board Fam Pract. 1990; 3(2):125-8.
3. Hillis SD, Owens LM, Marchbanks PA, Amsterdam LF, Mac Kenzie WR. Recurrent chlamydial infections increase the risks of hospitalization for ectopic pregnancy and pelvic inflammatory disease. Am J Obstet Gynecol. 1997;176(1 Pt 1):103-7.
4. Mukul LV, Teal SB. Current management of ectopic pregnancy. Obstet Gynecol Clin North Am. 2007; 34(3):403-19.
5. Kamath MS, Aleyamma TK, Muthukumar K, Kumar RM, George K. A rare case report: ovarian heterotopic pregnancy after in vitro fertilization. Fertil Steril. 2010; 94(5):1910.e9-11.
6. Tal J, Haddad S, Nina G, Timor-Tritsch I. Heterotopic pregnancy after ovulation induction and assisted reproductive technologies: a literature review from 1971 to 1993. Fertil Steril. 1996; 66(1):1-12.
7. 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(2):417.e9-15.
8. De Voe RW, Pratt JH. Simultaneous intrauterine and extrauterine pregnancy. Am J Obstet Gynecol. 1948; 56(6):1119-26.

9. Bontis J, Grimbizis G, Tarlatzis BC, Miliaras D, Bili H. Ovarian pregnancy after ovulation induction/intrauterine insemination: pathophysiological aspects and diagnostic problems. Hum Reprod. 1997; 12(2):376-8.
10. Reece EA, Petrie RH, Sirmans MF, Finster M, Todd WD. Combined intrauterine and extrauterine gestations: a review. Am J Obstet Gynecol. 1983; 146(3):323-30.
11. Hassan N, Zaheen Z, Jatoi N, Srichand P, Shaikh F. Risk factors, clinical presentation, and management of 62 cases of ectopic pregnancy at tertiary care centre. JLUMHS 2009; 8(3):238-41.
12. Ankum WM, Mol BW, Van der Veen F, Bossuyt PM. Risk factors for ectopic pregnancy: a meta-analysis. Fertil Steril. 1996; 65:1093–9.
13. Selo-Ojeme DO, GoodFellow CF. Simultaneous intrauterine and ovarian pregnancy following treatment with clomiphenecitrate. Arch Gynecol Obstet. 2002; 266(4):232-4.
14. Bouyer J, Coste J, Shojaei T, Pouly JL, Fernandez H, Gerbaud L, Job-Spira N. Risk factors for ectopic pregnancy: a comprehensive analysis based on a large case-control, population-based study in France. Am J Epidemiol. 2003;157(3):185-94.
15. Talbot K, Simpson R, Price N, Jackson SR. Heterotopic pregnancy. J Obstet Gynaecol. 2011; 31(1):7-12.
16. Lin EP, Bhatt S, Dogra VS. Diagnostic clues to ectopic pregnancy. Radiographics. 2008; 28(6):1661-7.
17. Kaplan BC, Dart RG, Moskos M, et al. Ectopic pregnancy: prospective study with improved diagnostic accuracy. Ann Emerg Med. 1996; 28(1):10-7.
18. Headley AJ, Adum V. Naturally occurring heterotopic pregnancy in a multiparous patient: a case report. J Reprod Med. 2013; 58(11-12):541-4.
19. Espinosa PM, Alcantar Mendoza MA. Heterotopic pregnancy: report of a case and review of literature. Ginecol Obstet Mex. 1997; 65:482-6.
20. Varras M, Akrivis C, Hadjopoulos G, Antoniou N. Heterotopic pregnancy in a natural conception cycle presenting with tubal rupture: a case report and review of the literature. Eur J Obstet Gynecol Reprod Biol. 2003; 106(1):79-82.
21. 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):1-12.
22. Ince U, Osmanagaoglu MA, Bozkaya H. A ruptured cornual ectopic pregnancy at 18 weeks' gestation: a case report. The Int Jour of Gyn and Obs. 2007; 9(2):1-4.