

Heterotopic pregnancy in natural conception. A case report and literature review

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Abstract

Heterotopic pregnancy is defined as the coexistence of intrauterine and ectopic pregnancy, each one of which might be single or multiple. The incidence is approximately 1:30,000 pregnancies and most of the times the diagnosis is set after the occurrence of symptoms. In the following article is reported the case of a 33-year old patient presented at the emergency room, with acute ab-

dominal pain and 12 weeks of amenorrhea. Transabdominal ultrasound confirmed a live intrauterine pregnancy and laparotomy as well as the histopathological report of the right fallopian tube confirmed the ectopic pregnancy.

Key words: heterotopic pregnancy; ectopic pregnancy; natural conception

Introduction

Heterotopic pregnancy is defined as the simultaneous occurrence of two pregnancies due to blastocysts implantations in different anatomical sites. In most of the cases, an intrauterine pregnancy coexists with an ectopic pregnancy, rather than two ectopic pregnancies reoccur. Fallopian tube is the most common site of implantation (90%), although cases have been reported in which ectopic pregnancies were found in the cervix, the ovaries, the abdomen as well as the incision of a cesarean section¹⁻¹⁰.

The incidence of heterotopic pregnancy is 1:30,000 pregnancies in natural conception, however due to the increase of in vitro fertilization

the incidence has been estimated to 1:7,963 pregnancies in the general population⁶. As far as the populations of ovarian stimulation and IVF are concerned there is an occurrence range between 1:100 and 1:500^{7,11}.

This article reports a case of a heterotopic pregnancy in natural conception, concerning an intrauterine pregnancy and an ectopic one at the right fallopian tube.

Case report

A 33-year old patient with acute abdominal symptoms and 12 weeks of amenorrhea presented at the ER of the "Achillopouleio", District General Hospital, Volos, Greece. Abdominal examination

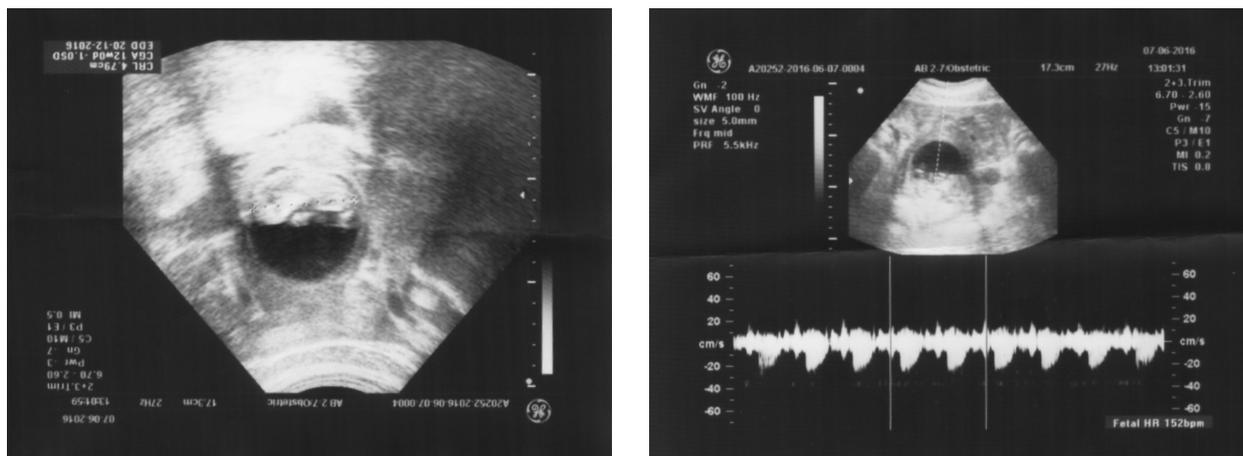


Figure 1, 2: Fetus with HR (+) at 12th week of gestation, free abdominal fluid

showed abdominal tenderness with guarding and muscular diggity, signs of peritonism. Painful cervical movement during the bimanual examination and no cervical bleeding were the results of pelvic examination.

Transvaginal ultrasound revealed an intrauterine pregnancy of a fetus with positive cardiac activity and a measured CRL corresponding to 12 weeks and the presence of a large amount of free abdominal fluid (Figures: 1, 2). Furthermore, complete blood count showed HCT: 31.9, HGB: 10, WBC: 13,100, PLT: 190,000.

Due to deterioration of the patient's clinical condition, combined with a decrease of HCT to 26.9 and HGB to 8.9 within an hour, an emergency laparotomy was performed through a Pfannestiel incision which revealed extended haemoperitoneum and an active bleeding through a mass on the right fallopian tube (Figures 3, 4). Right salpingectomy was performed and the histopathological examination identified the mass as ruptured ectopic pregnancy.

The patient was discharged on the 5th post-operative day after an uneventful postoperative course. Positive cardiac activity was noted every day during her stay, since the intrauterine pregnancy was untouched and preserved after the operation. The screening of the patient's pregnancy continued until the 18th week of gestation.

Discussion

Heterotopic pregnancies are usually diagnosed between the 5th and the 34th week of gestation¹² with the majority of them to be diagnosed between the 5th and 8th week of gestation (70%)¹¹. Due to lack of clinical symptoms the early diagnosis of HP is rare. Most common signs and symptoms are abdominal pain, cervical bleeding, adnexal mass and abdominal tenderness¹, all indicating threatened or ectopic pregnancy.

HP should be part of our differential diagnosis when a) patients have been treated with IVF, b) BHCG levels remain high or increase after treatment for a spontaneous or induced abortion, c) in a natural conception transvaginal ultrasound indicates more than one corpus luteum and d) in the presence of signs and symptoms than indicate ectopic pregnancy without cervical bleeding¹³.

High risk factors for HP are preexisting pelvic inflammation, sexual transmitted diseases, previous tubal surgery, previous ectopic pregnancy, smoking and endometriosis¹⁴.

Pre-operative diagnosis of HP is extremely difficult due to the co-existence of the intrauterine pregnancy, which makes the estimation of blood BHCG levels doubtful and of low diagnostic value. Therefore, the diagnosis of HP mainly depends on the signs of transvaginal ultrasound^{15,16}, most common of which are 1) an ectopic gestational sac, 2)



Figures 3, 4: Right fallopian tube, ectopic pregnancy

adnexal masses and 3) the ring sign, an echogenic ring which surrounds the ectopic pregnancy¹⁷. However, ultrasound diagnostic sensitivity of heterotopic pregnancy is low (0.56)¹⁸.

Main treatment options are either surgery or medication¹. As far as medical treatment is concerned one option is methotrexate, which should not be recommended when a live intrauterine pregnancy co-exists, due to its toxicity to the embryo. Another option is local KCL injection at the echogenic mass, which, however, could be combined with persistence of trophoblastic tissue throughout the intrauterine pregnancy²⁰. Patients with hemodynamic instability are treated with laparotomy, whereas patients hemodynamically stable with unruptured ectopic gestational sac could be treated with laparoscopy⁶.

Studies have shown that survival rate of the intrauterine pregnancies is estimated at 66-68% and the risk of spontaneous abortion is doubled²¹. ■

Conflict of interest

The authors declare no conflicts of interest.

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