Heterotopic pregnancy: case report

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Summary

Heterotopic pregnancy is the simultaneus development of an intrauterine pregnancy and ectopic pregnancy. It is a potentially fatal condition and rarely occurrs in natural conception cycles. A high incidence of heterotopic pregnancy is reported in pregnancies following an assisted reproduction technique (ART) with embryo transfer in utero. We report the case of heterotopic pregnancy via ART in a 42-year-old primigravida. She presented with pelvic pain and intraabdominal fluid collection. She was treated with laparoscopic surgery. At present the intrauterine pregnancy is in normal evolution.

Key words: Heterotopic pregnancy; Ectopic pregnancy; Laparoscopy; Pelvic pain; Hemoperitoneum.

Introduction

When a diagnosis of ectopic pregnancy is made, the coexistence of an intrauterine pregnancy and ectopic pregnancy should never be excluded if the pregnant patient has undergone ART and has painful symptomatology and hemoperitoneum.

Case Report

A 42-year-old primigravida was admitted the Obstetrics Emergency Room of the University General Hospital "G. Martino", Department of Obstetrics and Gynecology, Messina. The patient was in the 7th week of gestation via assisted reproductive technology (ART). She presented at our hospital due to pelvic pain after an ultrasound (US) scan had been performed by her gynecologist.

The US showed an intrauterine gestational sac containing a sole embryo with a subchorionic hematoma; cardiac activity was noted. In the left adnexa there was a complex and very suspicious image due to a non evolutive ectopic pregnancy. Ten years before the patient underwent laparoscopic surgery for a left ovarian endometriotic cyst.

After hospital admission the patient was subjected to blood tests: red blood cell count was 3,740,000 mmc; hemoglobin 11.3 g%; and βhCG 12,778 mlU/ml. The patient's general condition was good; she was normotensive with normal temperature and cardiac activity. Examination revealed lower abdominal tenderness, mainly in the lower left quadrant without muscular rigidity. Pelvic examination revealed an anteverted, enlarged, and floating uterus. A tender painful adnexal mass was palpable on the left fossa during bimanual examination, and cervical lateral movement was painful. No vaginal bleeding nor contractions were present.

The blood test was repeated 12 hours after hospitalization: red blood cells: 2,780,000 mmc, hemoglobin 8.4 g (- 2 g%).

US scan showed an enlarged uterus corresponding to an initial pregnancy with an intrauterine gestational sac containing a sole embryo; cardiac activity was noted. The gestational sac was surrounded by a 3 x 1.8 cm subchorionic hematoma. The Retzius space was filled with blood. The pouch of Douglas was completely filled, partly with fluid and partly with coagulated blood. In the left adnexa a 2.4 x 2.4 cm complex formation was found and an emergency laparoscopy was performed followed by therapy with progestins.

During laparoscopic optics a large quite quantity of partly coagulated blood in the pouch of Douglas (approximately 600 ml) and a modest amount of fluid and blood in the Retzius space were seen. The uterus was enlarged more than double and movable. The ectopic pregnancy was situated in the ampullary part of the integral left tube. The hemoperitoneum was cleared away and a left salpingo-oophorectomy was performed followed by washing with saline solution. The tube was taken out in a laparoscopic endo-bag. Abdominal US (postoperative day 2) revealed a sole 12 mm embryo and cardiac activity was noted. The hematoma found previously at the admission hospital had enlarged (3.6 x 2.5 mm).

A second abdominal US done on postoperative day 6 revealed a fetal crown-rump length (CRL) increase corresponding to the amenorrhea period, and there was normal fetal cardiac activity.

The hematoma was slightly reduced. A further US done on postoperative day 9 revealed a fetal CRL increase from 18 mm to 21.2 mm. Regular fetal cardiac activity and fetal movement were noted. The hematoma was 13 x 20 mm.

The patient underwent one last US which revealed regular fetal cardiac activity, CRL of 25 mm, and the hematoma reduced to 26 x 7 mm.

The patient was discharged and put on progestin therapy (hydroxyprogesterone caproate), intra-muscle ampoules (one every three days), folic acid, martial therapy and reconstituent solutions. She is followed regularly at the obstetrics clinic.

At present, the intrauterine pregnancy is in normal evolution and the progestin therapy has been suspended.

Discussion

Heterotopic pregnancy is a rare type of ectopic pregnancy and occurs in various forms. The incidence of heterotopic pregnancy is estimated at 1:30,000 [1]. However, in the last 20 years there was been an almost four-fold increase in the incidence of ectopic pregnancy in the general population and a corresponding increase in the incidence of heterotopic pregnancy [2].

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Fig. 1

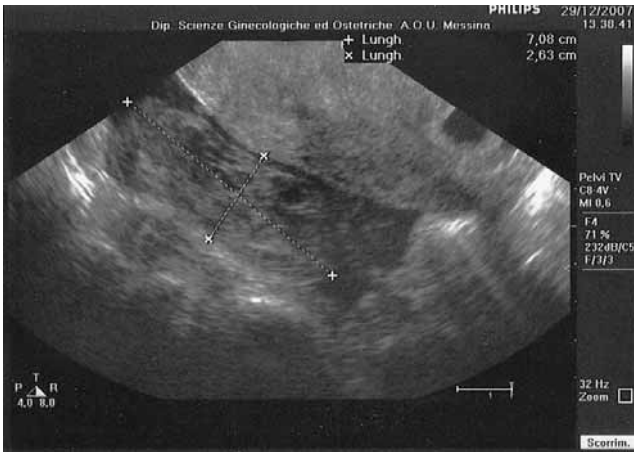


Fig. 2

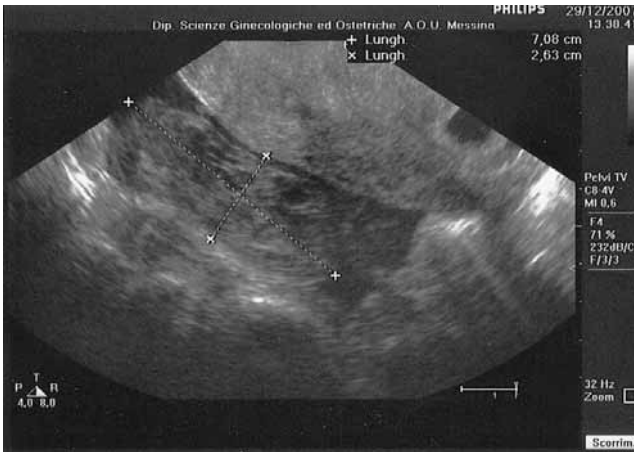
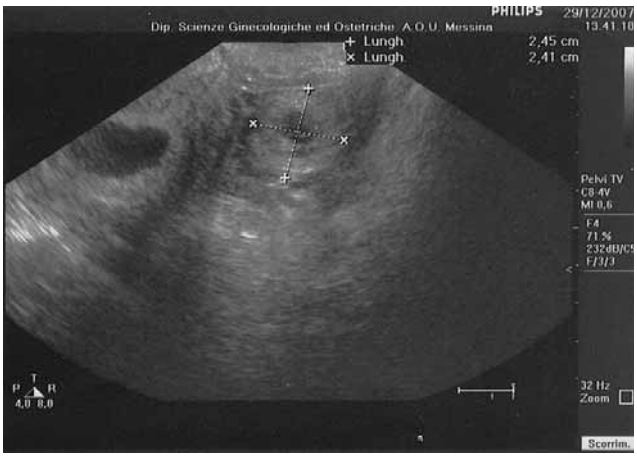


Fig. 3



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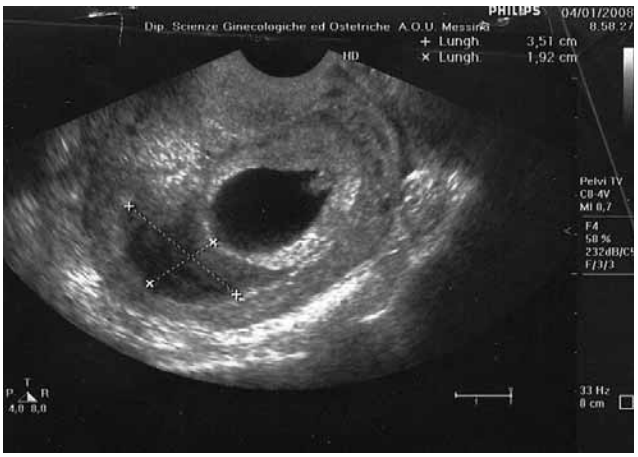

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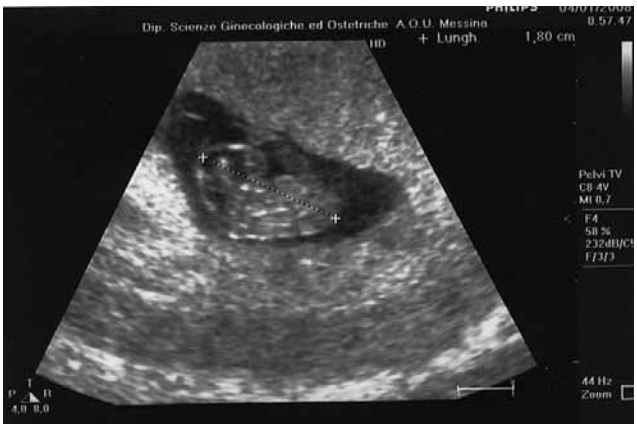

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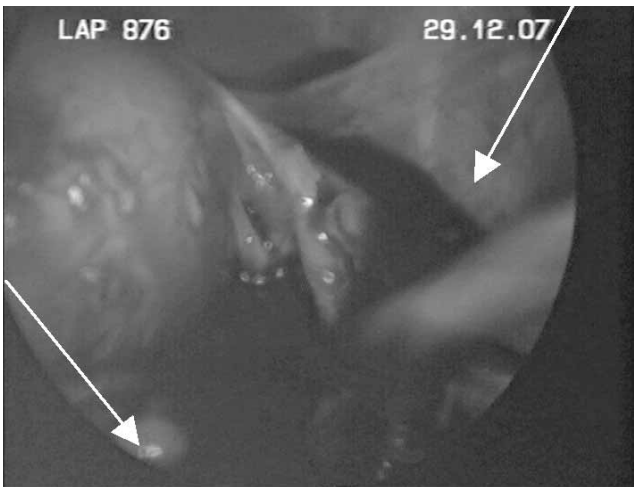

Fig. 7

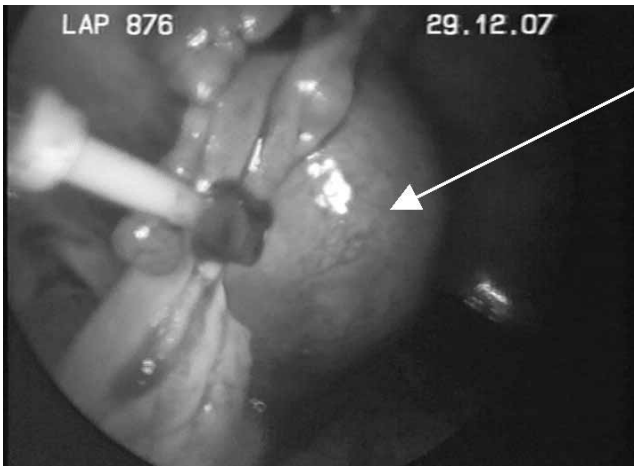

Figure 1. — Pelvic coagulated blood.

Figure 2. — Ectopic pregnancy.

Figure 3. — Ectopic pregnancy and hemoperitoneum.

Figure 4. — Subchorionic hematoma with intrauterine gestational sac.

Figure 5. — Intrauterine pregnancy.

Figure 6. — Hemoperitoneum.

Figure 7. — Left tubaric pregnancy.

This increase has been attributed to:

– increase in the incidence of pelvic inflammatory disease
– prevalent use of IUDS
– increase in tubal surgery, microsurgery
– pharmacologic ovulation stimulation
– ART
– endometriosis.

Each of these risk factors increases the risk for ectopic pregnancy from 2-7 times above the general population, with pelvic inflammatory disease having the most significant effect [3].

Heterotopic pregnancies are usually diagnosed between the 5th and 34th week of gestation: 70% of heterotopic pregnancies were diagnosed between the 5th and 8th week of gestation, 20% between the 9th and 10th week and 10% after the 11th week [4].

Our case was diagnosed at the 7th week of amenorrhea. Early diagnosis of a heterotopic pregnancy is often difficult because clinical symptoms are lacking. Usually, signs of an extrauterine pregnancy predominate. Reece *et al*. [1] defined four common presenting signs and symptoms for heterotopic pregnancy: abdominal pain, adnexal mass, peritoneal irritation and enlarged uterus.

Abdominal pain is reported in 83% of heterotopic pregnancies and hypovolemic shock with abdominal tenderness in 13%; half of the patients do not complain of vaginal bleeding [5-11]. In our patient vaginal bleeding was not present but she had pelvic pain and diffuse abdominal tenderness resulting from intraperitoneal bleeding without tubal breakage.

Transvaginal US is a safe aid in the diagnosis of heterotopic pregnancy, however sometimes the differential diagnosis between a tubaric pregnancy and hemorrahgic corpus luteum cyst is difficult [12-14].

Certainly US visualization of cardiac activity in both intrauterine and extrauterine gestations removes any doubts. Moreover, fetal cardiac motion can have a different time of onset [15-17]. In fact Reece *et al*. [1] described a case in which intrauterine heart motion was observed six days after the onset of extrauterine fetal heart activity. Serial samples of serum βhCG can be misleading in the diagnosis of ectopic pregnancy, whereas the presence of blood in the pelvic cavity and a survey of peripartum hemorrhage are certainly more revealing [18]. We do not believe that culdocentesis is helpful in the differential diagnosis because a US scan can easily aid in identifing the presence of peritoneal hemorrhage. Beyond all doubt the gold standard treatment both for ectopic and heterotopic pregnancy is laparoscopic surgery with minimal manipulation of the uterus [19-22].

In our case, we preferred laparoscopy, even if the hemoperitoneum was present, as the patient has innumerable benefits with laparoscopy, and also because our center has remarkable experience in laparoscopic surgery [23-28].

Our patient was submitted to a left laparoscopic salpingo-oophorectomy. Linear salpingo-oophorectomy was not done to avoid the possible persistence of tubaric trophoblastic tissue as it could have interfered with the serial sampling of serum βhCG for the intrauterine pregnancy considering the patient's age and normal morphology of the contralateral tube [29-33]. The postoperative course has been regular without changes in vital parameters. The patient was discharged on postoperative day 10 and put on progestin therapy. Since then US scans have pointed out a remarkably decreased dysjunction area. In the intrauterine gestational sac, regular fetal cardiac activity and a gradual progressive and constant increase in fetal CRL are indices of normal evolution of the intrauterine pregnancy. At present, the patient is being followed by our department and her pregnancy is in normal evolution.

In conclusion, this was a rare case of heterotopic pregnancy occurring in a patient who conceived after ART (FIVET). The remote possibility of an intrauterine pregnancy should be suspected when confronted with a patient's chart characterized by pelvic pain and intraperitoneal fluid blood collection.

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