

What is your diagnosis ?



Answer

Heterotopic pregnancy is defined as the co-existence of an intrauterine and extrauterine pregnancy. Current studies demonstrated that its incidence has increased from 1 in 30000 pregnancies to 1 in 7000 pregnancies, which may be even more frequent after assisted conceptions (1). This potentially fatal condition for both the pregnant women and intrauterine gestation is difficult to diagnose and needs a high level of suspicion and scanning of the adnexa in every pregnant women. But still more than half of the women are diagnosed after emergent operation for acute abdomen during pregnancy (2).

Heterotopic pregnancies implant most commonly in the fallopian tubes (77.6%) and less frequently in the cornual region, uterine cervix, ovary and the abdomen. The risk factors causing ectopic pregnancy, such as a history of pelvic inflammatory disease, endometriosis, tubal damage, previous ectopic pregnancy and tubal surgery are also risk factors for heterotopic pregnancy. Ovulation induction increases heterotopic pregnancy by causing multiple follicular ovulation and by decreasing tubal motility due a high estrogen milieu (3). In in vitro fertilization cycles heterotopic implantation is increased if i) the patient has tubal factor infertility, ii) if the tip of the transfer catheter is placed near the fundus, iii) if five or more embryos are transferred with more than 20 μ l of transfer medium, which increases the tubal flushing of the medium with the embryos. Unlike ectopic pregnancies, there is no diagnostic value of progesterone and β -hCG serum levels in heterotopic pregnancies. Vaginal bleeding is rare due to the presence of intrauterine pregnancies in heterotopic gestations. Heterotopic gestation should be suspected in the presence of adnexal mass, abdominal pain, peritoneal irritation and abnormally increased uterine size (4) Besides all these complaints it should be kept in mind that 45% of the heterotopic gestations remain asymptomatic until rupture.

Transvaginal ultrasound scanning is much more sensitive than transabdominal ultrasound scanning (sensitivity 93% vs 50% respectively). The transvaginal ultrasound pictures presented here are of a heterotopic pregnancy with fetal heart beat in both of the fetuses (Figure 1). The presence of a 2-6mm thick ring around the gestational sac which is more hyperechogenic than the ovarian tissue surrounding the corpus luteum help in the diagnosis. The embryonic heart beat is usually rare at

the time of the diagnosis and usually appears a week after salpingectomy for the ectopic gestation. A low resistance high velocity flow pattern around the suspected sac and the presence of fluid in the pouch of Douglas aid in the diagnosis (Figure 2). In the differential diagnosis, multiple follicular cysts in the ovary after superovulation and gestational sac in both of the cavities of a didelphic or bicornuate uterus should be kept in mind. In difficult cases, magnetic resonance imaging can be performed. The diagnosis of heterotopic pregnancies are made between 5 to 8 gestational weeks in 70% of the cases and later than 11 weeks of gestation in 10%.

Laparotomy and laparoscopy can be performed after the diagnosis. Ultrasound guided aspiration of the sac and KCL instillation has been successful in selected cases. On the other hand, methotrexate, misoprostol, mifepristone and prostaglandins are not used due to their possible adverse effect on the intrauterine pregnancy. These options can be used if the patient is hemodynamically stable and the intrauterine embryo is dead at the time of diagnosis.

During operation care should be taken to avoid damaging the corpus luteum and using low pressure (12-15 mmHg) pneumoperitoneum during laparoscopy. With these precautions the intrauterine pregnancy can continue in 66 to 75% of the cases.

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References

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