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Heterotopic Pregnancy and Management: Case Report

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1. Abstract

In the last decade, heterotopic pregnancy incidence rised with the increased prevalence of ovulation induction and assisted reproductive technologies. In the first trimester, unrecognized heterotopic pregnancy can cause a life-threatening emergency. In this report, we describe a case of Heterotopic pregnancy and it's management.

2. Introduction

Heterotopic pregnancy is known as the simultaneous occurrence of intrauterine and ectopic pregnancy [1]. The diagnosis of heterotopic pregnancy is still one of the biggest challenges in modern gynecology, and often misdiagnosed. Especially, on account of the advancement of assisted reproductive technology [2,3]. The ultrasonound examination is considered to be essential and beneficial in establishing early diagnosis of heterotopic pregnancy [4]. A misleading diagnosis of heterotopic pregnancy can cause a life-threatening condition.

3. Case Report

Mrs MS, a 31 years old, gravida 2, para 1 , 1 alive child, 1 vaginal delivery, with a history of taking Clomiphene 50 mg per day from 1th day to the 5th day of cycle in the last three cycles prescribed by her gynecologist to regulate a dysovulation malfunctionning, no further investigation was made in this matter. There was no other significant past, obstetric, or surgical history. She was adressed by her gynecologist to the gynecology ER departement for management of non-viable heterotopic pregnancy of 6-7 weeks. On examination, the patient was vitally stable. On her gynecological examination, the speculum examination finds minimal blackish bleeding from endo-uterine origin, absence of cervical-vaginal lesion. Transabdominal sonography supplemented by transvaginal sonography revealed a none viable intrauterine pregnancy of 7 weeks and a right adnexal non viable ectopic pregnancy of 6 weeks and 4 days with free intraperitoneal fluid. (Figure 1) The serum human chorionic gonadotropin level β-hCG was 3490 IU/L. The ultrasound combined with Doppler flow imaging and the high B-hCG were suggestive of a none viable heterotopic pregnancy. To preserved the fertility of the patient and after her consent we proposed an ultrasonographically guided aspiration for the none viable intra uterine pregnancy and medical treatement by methotrexate for the ectopic one. After evaluting the hematological, hepatic and renal function of the staff proposed a medical traitement by intramuscular methotrexate 70 UI/ L, the patient consent to follow up until the β-HCG level is negative and full explication of the side effects and risks of the treatment.

In the 28th day after methotrexate administration, the serum β-hCG level reached a negative level and treatment was tolerated by the patient with no side effects.

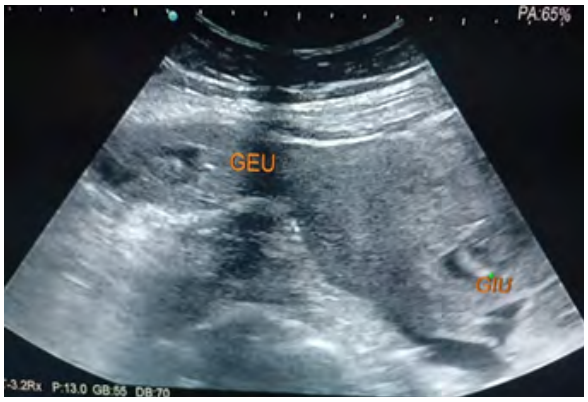

Figure 1: Heterotopic pregnancy with intrauterine pregnancy and a right adnexal ectopic pregnancy

4. Discussion

Heterotopic pregnancy is an intrauterine pregnancy and an ectopic pregnancy that occur simultaneously [1]. The first case of heterotopic pregnancy was described in 1708 the diagnosis was established during autopsy [5]. Its prevalence varies from 1 to 30 000 in a spontaneous cycle and around 1 in 100 in an assisted ones [2]. The most common risk factors for ectopic pregnancy include a history of ectopic pregnancy, adhesions, pelvic inflammatory disease, assisted reproduction techniques and ovarian hyperstimulation syndrome [6]. Also, for women covered by an assisted reproduction program there are additional factors, such as higher incidence of multiple ovulation, higher incidence of tubal malformation and technical factors in embryo transfer which may increase the risk for ectopic and heterotopic pregnancy [7]. In our case the patient had three cycle of ovulation induction clomiphene citrate which is known as hyperstimulation of the ovaries associated with increased rate of multiple pregnancy and ectopic pregnancy and also could be associated with a higher rate of heterotopic pregnancy [8]. The majority of cases are diagnosed in the first trimester. The symptoms of heterotopic pregnancy are heterogeneous, such as abdominal pain, vaginal bleeding with positive pregnancy test or completly asymptomatic and usually signs of the extrauterine pregnancy predominate5. Early diagnosis of heterotopic pregnancy is challenging because of the detection of an intrauterine implanted embryo and raised beta-hCG can mask the need to scan the adnexa in an asymptomatic patient. A late diagnosis can cause serious morbidity such as life-threatening hemorrhage, and hypovolemic shock. The B-hCG levels are considered to be unhelpful for heterotopic pregnancy diagnosis. Usually the B-hCG levels are low in ectopic pregnancy owing to the reduced number of trophoblastic cells, but the B-hCG levels are often found to be normal or higher in heterotopic pregnancy due to the presence of an intrauterine gestation. There are three options for the treatement of heterotopic pregnancy: surgical treatement, medical management which could be combined in some cases and expectant management. The treatment option of heterotopic pregnancy should aim to terminate the extra-uterine gestation with minimal distress to the intrauterine pregnancy and expected to continue normally if it's viable [9]. The choice of treatment depends upon the severity of symptoms, site of ectopic pregnancy, the viability of intrauterine pregnancy and the socioeconomic status of the patients. Success rates for delivering a live newborn was 66 %, while rest resulted in early or late miscarriages [10]. The surgical management is still the most frequently chosen method of treatment for the ectopic pregnancy. In most cases, it involves laparoscopic salpingectomy or a mini laparotomy and depends on the actual clinical condition. The medical treatment with methotrexate should be avoided, due to the risk of its teratogenicity on viable intra uterin pregnancy [11], but there are some reports that show a good therapeutic effect of methotrexate on none viable pregnancy [12]. While also preserving fertility [13]. Ultrasonographically guided aspiration is a less invasive method with good effectiveness if the intrauterine pregnancy is non-viable. In our case due to none viable intrauterin pregnancy and to preserve the fertility a less invasive treatement was proposed. Combining an ultrasonographically guided aspiration of the none viable intra uterine pregnancy and an injection with methotrexate to the ectopic part with positive results.

5. Conclusion

In the first trimester, the presence of an intra uterine pregnancy the scanning of the adnexal is mandatory to to eliminate a heterotopic pregnancy, especially with patient under ovulation induction treatment or assisted reproductive technology.

6. Conflict of Interest

All authors declare no conflict of interest.

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