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Simultaneous Co-Existing Viable Ectopic And Non-Viable Intrauterine Pregnancy: A Clinical Case Report

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Abstract: *Heterotopic pregnancy is considered when both ectopic and intra-uterine pregnancies occur at the same time. Even though it is a rare occasion, it can be fatal. It is the leading cause of maternal mortality in the first trimester. To prevent the associated mortalities, physicians need to know the typical presentation and manage the case properly. It is well documented that ectopic pregnancy has a strong association with assisted reproductive technology in terms of treatment. Both Surgical & medical options of treatment are available depending on the clinical scenario. Here we present a case of heterotopic pregnancy in a 26-year-old female after eleven weeks of amenorrhea that associated with a scanty painless vaginal bleeding. Diagnosis was made by ultrasonography and surgical treatment of both pregnancies were done Successfully with no notable complications.*

Keywords: *assisted reproductive technology - heterotopic pregnancy – laparotomy – ultrasonography.*

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I. Introduction

Heterotopic pregnancy develops when both intrauterine and ectopic pregnancies occur simultaneously. It is a rare presentation with an incidence of 1:30,000 natural conceptions, although, heterotopic pregnancy is more common in females using assisted reproductive technology (ART) [1]. It can present at more than one site, but the most frequent site for heterotopic pregnancy is the fallopian tube that accounts for 97% of ectopic pregnancies. Cervix and cesarean scar are common sites as well [2]. Heterotopic pregnancy considered the leading cause of maternal mortality during the first trimester, reaching 14% [3,4]. Therefore, early recognition and management of the heterotopic pregnancy are essential to reduce the mortality rates. A physician should know the typical presentation which includes; amenorrhea for 5-9 weeks, vaginal spotting, and pelvic pain. Other differential diagnoses to be considered with the same presentation are ruptured ectopic pregnancy, acute appendicitis, and spontaneous abortion[5, 6, 7]. Here we present a rare case of a viable ectopic and non-viable intrauterine heterotopic pregnancy with induced conception.

Case History:

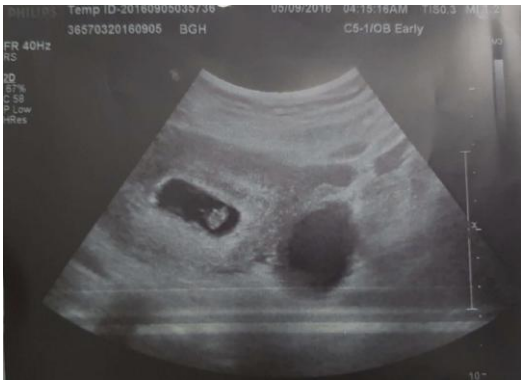
A 26-year-old Saudi woman gravida 4, para 3 came to the Emergency room with a complaint of scanty painless vaginal bleeding last for one-day, after amenorrhea of an 11th weeks period. She had a positive pregnancy test, and she was not on regular medical follow-up. She had not been aware of any abdominal pain. On reviewing her history, her pregnancy had been induced using clomiphene citrate, after 5-years secondary infertility for no obvious reason. The patient had no history of contraceptive use, abortion, pelvic inflammatory disease, sexually transmitted diseases and no history of previous surgical intervention. On examinations she appeared well, apyrexial, her pulse rate was 108 beats per minute and her blood pressure was 121/64mmHg. Her abdomen was soft with no evidence of tenderness.

The patient was sent with a formal referral to the radiologist for sonography.

On Pelvic Ultrasonography there was a non-viable intra-uterine pregnancy of 7 weeks duration, and a right extra-uterine ectopic pregnancy (Fig. 1 and 3). As well as a cyst present at the left adnexium (Fig. 2). The patient was then diagnosed as a case of heterotopic pregnancy. The right adnexium showed an echogenic ring mass (size, 43 mm), which was a well-defined and contained alive embryo with a crown rump length of 9 weeks and three days, heart pulse was detectable using Doppler ultrasonography within the mass (Fig. 3 and 4). The

tube containing the ectopic pregnancy was not ruptured, and the patient was stable. β-human chorionic gonadotropin (hCG) level was 328 (IU)/L, Hemoglobin (Hb) 11 g/dl, and her blood group type was B positive. Considering these facts, the patient planned for surgery next day. as medical treatment policy is not applicable in our setting. Surgery laparotomy was done, as the patient starts to have bleeding from a leak in the ectopic site. Right salpingectomy simultaneously with an evacuation of retained products of conception was done (Fig. 5), 300 ml of blood was removed from the peritoneal cavity with active oozing from a rupturing right ectopic pregnancy at the time of surgery. Haemostasis was secured. Both ovaries were enlarged and polycystic. Drilling was performed with cauterization of left ovary. The products were sent for histopathology. The patient was then discharged in a good condition.

Post-surgical histopathology confirmed right tubal pregnancy that is consistent with ectopic pregnancy, plus products of conception which is consistent with the intrauterine pregnancy, and with no evidence of malignancy.



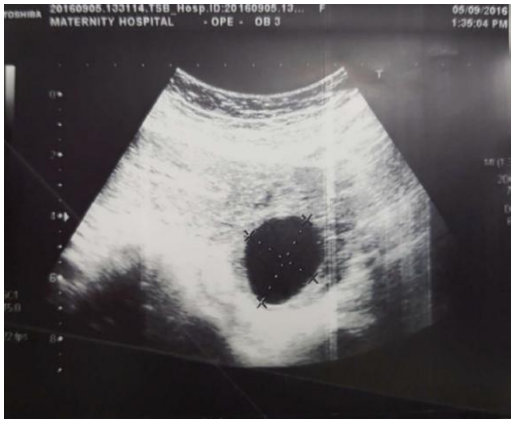


Fig. 2: Showed luteal cyst in the left adnexium

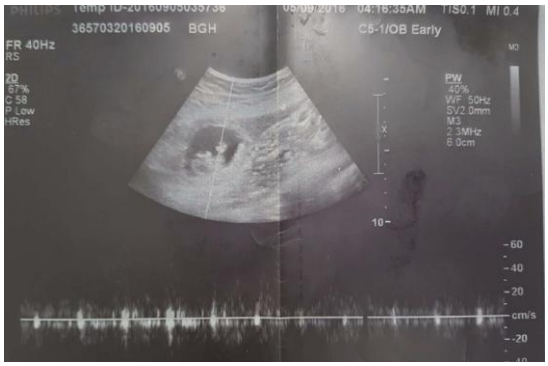


Fig. 3: Showed the ectopic pregnancy with a viable fetus in right ovarian tube

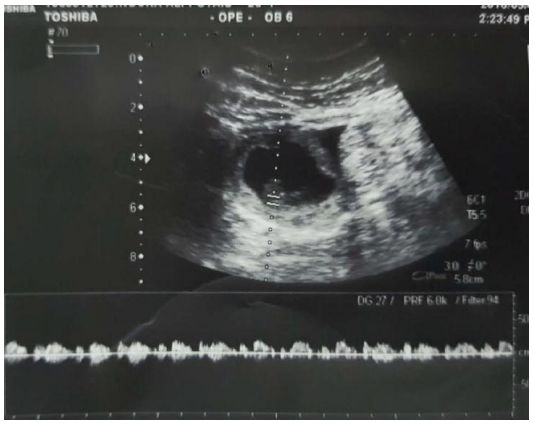


Fig. 4: Showed no evidence of uterine wall with viable fetal heartbeat.

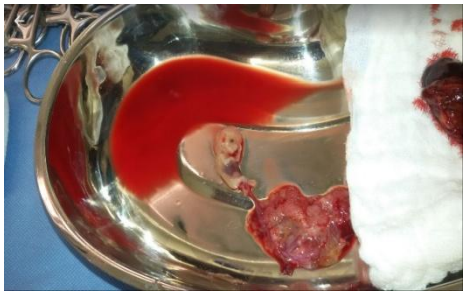


Fig. 5: The contents of the viable products of the ectopic pregnancy, showed the fetus and the placenta

II. Discussion

The occurrence of ectopic pregnancy simultaneously with intrauterine pregnancy is called heterotopic pregnancy, a phenomenon which is reported to be a rare event. Its frequency is being reported as 1:30 000 following natural conception [8].while following assisted reproductive techniques (ART) has been reported as high as 1:100 to 1:500[9, 10]. Although it is a life threating condition, the diagnosis can easily be missed. Traditionally many health risk factors have been associated with ectopic pregnancy such as previous infertility & ectopic pregnancy, pelvic inflammatory disease, previous adnexal surgery & use of intrauterine device[11]. Our patient is not known to have any of these factors, however the fact that she was treated with ovulation therapy to induce this pregnancy is obviously significant in terms of developing heterotopic pregnancy as this is considered a common sequel [12, 13]. The occurrence of heterotopic pregnancy following clomiphene therapy was recorded as early as 1971. But in fact, heterotopic gestation had been first reported in 1708 during the autopsy by Duverny[14]. The combination of ectopic & intrauterine gestation is a health problem with a constantly rising incidence in women with infertility undergoing assisted reproductive techniques (ART). The diagnosis of heterotopic gestation is clinically difficult & pose a big challenge in clinical settings. A high suspicion should be present when managing induced pregnancies. The diagnosis may be suspected when comparing the serum hCG with those expected for a gestational age yet is difficult to ascertain [15]. Most of the heterotopic pregnancies are present in the emergency department with a concomitant living intrauterine fetus, interestingly our patient is the opposite case where the ultrasonography reported a living ectopic gestation & a dead intrauterine pregnancy.

Like all cases of the same problem, this case report emphasizes the necessity of recognizing patients at risk to develop heterotopic gestation especially those with induced pregnancies. This potentially life-threatening catastrophe which could easily be missed necessitates a full attention when reviewing pregnancies following induction therapy to exclude ectopic gestation, furthermore all staff should always suspect this possibility until proven the opposite.

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