

## A RARE CASE OF HETEROTOPIC PREGNANCY

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### PRESENTATION OF THE CASE

Patient is a 30 years old female, primigravida at 7 weeks 1 day of gestation by last menstrual period, came to Out Patient Department with complaints of severe lower abdominal pain since 2 days, more on January 3rd 2018 morning, it was associated with 1 episode of vomiting and nausea for 1 day. She denied any white discharge per vaginum, urinary symptoms, fever, chills, dizziness, palpitations or any other symptoms. She did not have any past history of abdominal surgery, abortion, pelvic inflammatory disease, use of any contraceptives.

Ultrasonogram done on 2.1.2018 revealed single live intrauterine pregnancy at 7 weeks 1 day with significant free fluid in both flanks, pelvis and Pouch of Douglas. Patient had conceived with assisted reproductive technique; urine pregnancy was done at 5 weeks of gestation in consistency with her last menstrual period.

Upon presentation to Out Patient Department, patient was noted to be pale, pulse rate was 94 beats per minute, blood pressure was 100/70 mmHg and her abdomen was rigid with diffuse tenderness. On vaginal exam, there was mild cervical motion tenderness, fornices were free, cervical os closed. There were no pertinent significant physical findings.

The patient's blood group was A+ve, beta HCG value of 16,980 mIU/ml with correlates with a gestation of 6 to 8 weeks. The patient's initial haemoglobin was 9g/dl. Pelvic ultrasound – 1) Revealed gravid uterus with single intrauterine gestation with CRL- 7.0mm corresponds to 6wks + 5 days. 2) Gross particulate ascites, to rule out viral cause. Ultrasonography guided transabdominal aspiration was done and revealed frank blood and aspirate was sent for cytological analysis.

### DIFFERENTIAL DIAGNOSIS

When the patient was initially seen the differential diagnosis included early pregnancy with ruptured appendicitis, abortion, heterotopic pregnancy, viral causes of hemoperitoneum like dengue with thrombocytopenia.

### CLINICAL DIAGNOSIS

When intrauterine pregnancy has been already established differential diagnosis of heterotopic pregnancy is even more commonly missed. In this case even transvaginal ultrasonography was not revealing about the heterotopic pregnancy probably because of the small tubal mass resulting from tubal abortion. In this case clinical diagnosis was heterotopic pregnancy (single live intrauterine gestation along with tubal abortion).

### DISCUSSION OF MANAGEMENT

A heterotopic pregnancy involves coexisting pregnancies at 2 different implantation sites. It is a rare and potentially dangerous condition occurring in only 1 in 30,000 spontaneous pregnancies. With the advent of assisted reproduction techniques (ART) and ovulation induction, the overall incidence of heterotopic pregnancy has risen to approximately 1 in 3,900 pregnancies but the incidence is about 1.5/1000 pregnancies resulting from ART.<sup>1</sup> However, obstetricians and emergency medicine physicians are unlikely to consider this diagnosis as a part of the differential diagnosis in cases presenting with abdominal pain and vaginal bleeding.

Transvaginal ultrasound is the key to diagnose heterotopic pregnancy.<sup>2,3</sup> However, it continues to have a low sensitivity because the diagnosis is often missed or overlooked.<sup>4,5</sup> Therefore the diagnosis is often delayed leading to serious consequences.

Surgical intervention plays a key role in the management of heterotopic pregnancy. The goal is to remove the ectopic pregnancy without jeopardizing the intrauterine pregnancy. Laparoscopic salpingectomy is the standard surgical approach of heterotopic pregnancy. Other management options mentioned in the literature include local injection of potassium chloride, hyperosmolar glucose, or methotrexate into the sac under ultrasound guidance followed by aspiration of the ectopic pregnancy.<sup>6</sup>

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The predisposing factors to ectopic pregnancy include early age of sexual intercourse, increasing maternal age, multiple sexual partners, pelvic infections, history of infertility and use of fertility drugs, previous ectopic pregnancies, and previous pelvic surgeries.<sup>7</sup> However research shows that the main risk factors associated with ectopic pregnancy are tubal surgery and pelvic inflammatory disease.<sup>8,9</sup>

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Heterotopic pregnancy when diagnosed is managed by removal of the ectopic and conservation of the intrauterine pregnancy. The survival rate of the uterine foetus of an ectopic pregnancy in heterotopic gestation is about 70%.<sup>10</sup>

Spontaneous double or multiple ovulations rarely occurs in humans. However, as multiple ovulation is possible after assisted reproductive techniques, two or more simultaneous ectopic pregnancies can occur.<sup>11,12</sup>

In our case concurrent tubal pregnancy was difficult to diagnose because it was accompanied by hemoperitoneum. When the cause of bleeding is hard to discover and if there is hematoma in the abdominal cavity, it is necessary to perform laparoscopic surgery as soon as possible even if vital signs are stable and there are no symptoms.<sup>13</sup>

As mentioned before among all heterotopic pregnancies, the combination of intrauterine and tubal extrauterine pregnancy is the most common. One study has reported a case of a spontaneous heterotopic pregnancy with intrauterine pregnancy and caesarean scar pregnancy. Transvaginal imaging demonstrated live embryos in both gestational sacs, with CRL 2.5 mm (5w 6d). One gestational sac was normally implanted within the uterus, while the second gestational sac in the region of the Cervico-isthmic junction had very little myometrium surrounding it. This gestational sac was also well perfused on doppler imaging. The extra-uterine pregnancy being located in the lower anterior myometrium at the level of the previous caesarean section scar.<sup>14</sup> It was managed by selective embryocide of the caesarean section scar pregnancy with potassium chloride. Another study showed a case of post-in-vitro fertilization cervical and intrauterine heterotopic pregnancy with cardiac activity in both embryos is presented. It was diagnosed in the 7<sup>th</sup> week of gestation by ultrasonography and cervical pregnancy was treated conservatively with intrathoracic administration of potassium chloride under transvaginal ultrasound guidance with regression of trophoblastic tissue. The intrauterine pregnancy continued, and caesarean section was performed in the 31st week due to absent end diastolic umbilical artery foetal blood flow. A live male baby was delivered.<sup>15</sup>

Diagnostic laparoscopy done and massive hemoperitoneum found. So, it was converted to emergency laparotomy, left partial salpingectomy done on 3/1/18 and the specimen of the tube was sent for histopathological study. Postoperatively patient was stable.



**Figure 1. Left Tubal Dilatation and Bleeding from the Left Fimbrial Ends**



**Figure 2. Incision Made Over Left Fallopian Tube to Remove Gestational Sac**



**Figure 3. Gestational Sac being Removed from Left Fallopian Tube**

On next day Ultrasonogram (transvaginal) was done (4/1/18) and it shows single live intrauterine gestation of 7 Weeks 3 Days with good foetal heart rate. Cytology (5/1/18) report of aspirate shows inflammatory changes suction (gross: received about one ml of haemorrhagic fluid, microscopic: smear shows blood, many neutrophils with a few lymphocytes and histiocytes). There are no malignant cells. The histopathological study of the tube showed presence of chorionic villi in it.

#### FINAL DIAGNOSIS

Heterotopic Pregnancy- Live Intrauterine Pregnancy with Left Tubal Abortion.

We as clinicians should always keep heterotopic pregnancy as differential diagnosis in any reproductive age group woman with abdominal pain. A high index of suspicion is needed for early and timely diagnosis; early management with laparotomy or laparoscopy can result in a favourable obstetrical outcome. In this case, due to timely diagnosis and intervention, the life of the mother as well as her intrauterine pregnancy was saved.

#### REFERENCES

- [1] Fritz MA, Speroff L. Clinical gynaecologic endocrinology and infertility. 8<sup>th</sup> edn. New Delhi: Wolters Kluwer Health/Lippincott Williams & Wilkins 2011.
- [2] Avitabile NC, Kaban NL, Siadecki SD, et al. Two cases of heterotopic pregnancy: review of the literature and sonographic diagnosis in the emergency department. J Ultrasound Med 2015;34(3):527-530.

- [3] Buca DIP, Murgano D, Impicciatore G, et al. Early diagnosis of heterotopic triplet pregnancy with an intrauterine and bilateral tubal pregnancy after IVF: a case report. *Journal of Obstetrics and Gynaecology* 2015;35(7):755-756.
- [4] Li XH, Ouyang Y, Lu GX. Value of transvaginal sonography in diagnosing heterotopic pregnancy after in-vitro fertilization with embryo transfer. *Ultrasound Obstet Gynecol* 2013;41(5):563-569.
- [5] Zhaoxia L, Honglang Q, Danqing C. Ruptured heterotopic pregnancy after assisted reproduction in a patient who underwent bilateral salpingectomy. *Journal of Obstetrics and Gynaecology* 2013;33(2):209-210.
- [6] Yu Y, Xu W, Xie Z, et al. Management and outcome of 25 heterotopic pregnancies in Zhejiang, China. *European Journal of Obstetrics & Gynecology and Reproductive Biology* 2014;180:157-161.
- [7] Jurkovic D. Ectopic pregnancy. In: Edmonds DK, ed. *Dewhurst's textbook of obstetrics and gynaecology*. 7<sup>th</sup> edn. Oxford, UK: Blackwell Publishing 2007:106-116.
- [8] Bright DA, Gaupp FB. Heterotopic pregnancy: a re-evaluation. *J Am Board Fam Pract* 1990;3(2):125-128.
- [9] Tal J, Haddad S, Gordon N, et al. Heterotopic pregnancy after ovulation induction and assisted reproductive technologies: a literature review from 1971 to 1993. *Fertil Steril* 1996;66(1):1-12.
- [10] Lau S, Tulandi T. Conservative medical and surgical management of interstitial ectopic pregnancy. *Fertil Steril* 1999;72(2):207-215.
- [11] De Los Rios JF, Castaneda JD, Miryam A. Bilateral ectopic pregnancy. *J Minim Invasive Gynecol* 2007;14(4):419-427.
- [12] Jonler M, Rasmussen KL, Lundorff P. Coexistence of bilateral tubal and intrauterine pregnancy. *Acta Obstet Gynecol Scand* 1995;74(9):750-752.
- [13] Jurkovic D, Wilkinson H. Diagnosis and management of ectopic pregnancy. *BMJ* 2011;342:d3397.
- [14] Paoletti D. A heterotopic pregnancy involving a caesarean section scar. *Australas J Ultrasound Med* 2011;14(3):34-35.
- [15] Majumdar A, Gupta SM, Chawla D. Successful management of post-in-vitro fertilization cervical heterotopic pregnancy. *J Hum Reprod Sci* 2009;2(1):45-46.