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Case Report

Successful outcome in a ruptured heterotopic pregnancy

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ABSTRACT

A heterotopic pregnancy is a simultaneous intrauterine pregnancy and an ectopic pregnancy. It is a rare condition; however, the increasing use of artificial reproductive techniques is increasing the incidence of heterotopic pregnancy. Most of the patients with heterotopic pregnancy have a previous history of infertility or tubal diseases. Diagnosis of ectopic pregnancy should not be missed out as quite often it is a precious pregnancy and a ruptured ectopic can change the outcome of intrauterine pregnancy as well. A 30-year-old female primigravida with 3 months of gestational age, (*in vitro* fertilization (IVF) conception) presented to casualty with complaints of bleeding per vaginum since morning. Patient was of gestational age 9 weeks 2 days by a 6 weeks scan at the time of presentation. A Provisional diagnosis of threatened abortion was made, 36 hours later, patient started complaining of acute pain in abdomen. In view of examination findings and ultrasound scan, decision was taken to perform emergency laparotomy. Intra-op findings were consistent with a right ruptured ectopic pregnancy which was missed on previous scans. Histopathology report confirmed findings of right ectopic pregnancy. Heterotopic pregnancy can occur even if the earlier scans are unable to detect the ectopic pregnancy. Patient presenting with symptoms of pain in abdomen and bleeding per vaginum should not be neglected especially in cases of IVF conception. Clinicians should keep in consideration for possibility of heterotopic pregnancy. Early diagnosis and prompt management can increase the survival of intrauterine pregnancy and decrease maternal morbidity and mortality.

Keywords: Heterotopic pregnancy, Ectopic pregnancy, IVF, Bleeding per vaginum, Ruptured ectopic pregnancy

INTRODUCTION

The coexistence of intrauterine pregnancy and ectopic pregnancy is called heterotopic pregnancy. The incidence of ectopic pregnancy is 0.006-0.001% in spontaneous cases, 1-3% in artificial fertilization technology (ART). In 1972, the first heterotopic pregnancy was reported after IVF.[1,2]

Almost 60-70% of heterotopic pregnancies result in a live birth with the outcomes similar to the singleton pregnancies.

Delayed diagnosis can increase morbidity and mortality for both maternal and intrauterine pregnancy. Here we present a heterotopic pregnancy in IVF conception, which was initially missed and only discovered when the patient had an acute abdomen.

CASE REPORT

A 30-year-old female married for eleven years, second degree consanguineous marriage primigravida with three months of gestational age, (IVF conception) presented to casualty with complaints of bleeding per vaginum since morning. The IVF was done in view of bilateral distal fimbrial block (confirmed on diagnostic hysteroscopy and laparoscopy) and husband factor (asthenospermia). Day three embryo transfer was done. At six weeks, scan was done suggestive of the single live intrauterine gestational sac.

Patient was of gestational age 9 weeks 2 days by scan at the time of presentation.

On examination, altered discharge was present on per speculum examination and uterus was 8 weeks size with bilateral fornices free non tender on per vaginal examination. Even though it was IVF conception and the chances of heterotopic pregnancy high but since the on-admission scan showed only the intrauterine gestational sac, the diagnosis of heterotopic pregnancy was missed.

A provisional diagnosis of threatened abortion was made and patient was admitted and started on progesterone support. 36 hours later, patient started complaining of acute pain in abdomen. On examination patient had right sided forniceal tenderness and fullness in the pouch of Douglas. Patient was hypotensive, tachycardiac and a drop in Hb from 10 to 8 gm% was observed. Urgent ultrasound scan was done which was suggestive of single live intrauterine gestation of 10 weeks 2 days with a large pelvic hematoma of 345 cc with no evidence of any extrauterine gestational sac.

Decision was taken to perform emergency laparotomy given unstable vitals. Intra-op findings- hemoperitoneum present of approximately 200 ml, well organised hematoma seen adherent to posterior surface of uterus and clots of 150 gm removed, adhesions present between right tube and ovary. Right fimbrial end bleeding was present and right salpingectomy done. Sample sent for histopathology. 1-pint packed cell volume given intraoperatively.

Histopathology report confirmed findings of right tubal ectopic pregnancy.

Postoperatively, scan was done suggestive of single live intrauterine gestation of 10 weeks 4 days.

Patient was discharged on progesterone support. Rest of antenatal period was uneventful. Patient underwent emergency lower segment C-section at 39 weeks in view of fetal distress and delivered full-term baby of 2.5 kgs.

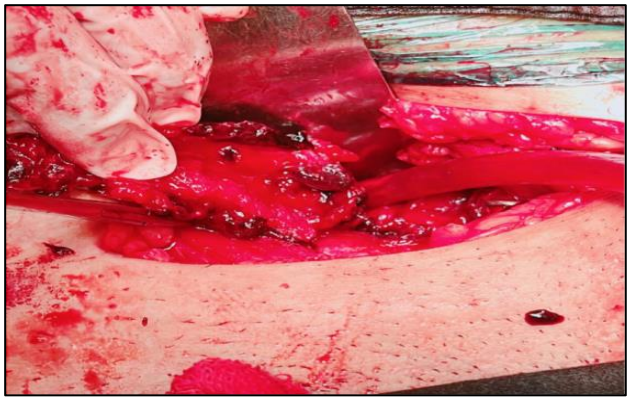

Figure 1: Intraoperative finding showing right ruptured fallopian tube.

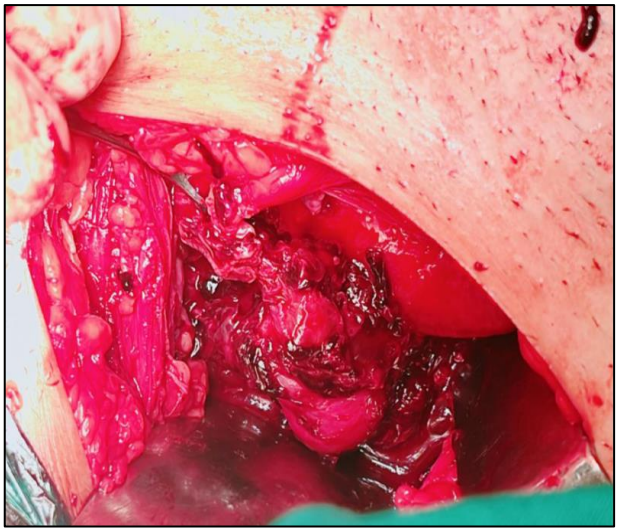

Figure 2: Intraoperative finding showing ruptured fallopian tube with bulky gravid uterus.

DISCUSSION

A heterotopic pregnancy is a multiple pregnancy in which one embryo is intrauterine and the other is ectopic. The most common site of an ectopic pregnancy is the fallopian tube, but it can be seen on the cervix, ovary, previous caesarean scar or the abdomen.

Risk factors for ectopic pregnancy and heterotopic pregnancy are pelvic inflammation, previous ectopic pregnancy, previous fallopian tube surgery, endometriosis, use of intrauterine devices, maternal age over 35 years, smoking and infertility treatment with artificial insemination. The biggest risk factor for heterotopic pregnancy is artificial insemination. Inducing ovulation and transferring more than one embryo significantly increases the risk of ectopic and heterotopic pregnancy. Another predisposing factor for ectopic pregnancy is damage to the fallopian tubes or previous fallopian surgery, which can also be an important indicator for assisted reproduction.[3]

Early diagnosis can be difficult, especially if the patient is asymptomatic. Great vigilance should be observed, especially in *in vitro* fertilisation.[4,5]

Methods of diagnosis

Pelvic examination: Detection of a specific area of pain or tenderness, irritation of the abdominal mucosa or detection of an enlarged uterus or adnexal mass.

β-hCG (beta human chorionic gonadotropin): Levels are elevated due to concurrent intrauterine pregnancy.

Transvaginal ultrasound: Visualization of intrauterine gestational sac with ectopic pregnancy. A hemorrhagic corpus luteum cyst can resemble a heterotopic pregnancy, making diagnosis difficult. Ovarian pathologies such as

cysts, multiple cysts at induction of ovulation, and ovarian hyperstimulation syndrome can further obscure the adnexal mass, complicating the diagnosis.[6]

The goal is to terminate the ectopic pregnancy and to minimize and preserve the damage to the intrauterine pregnancy.

Treatment methods

Expectant treatment (watch and wait): Considered for hemodynamically stable and asymptomatic women. It also offers the advantage of avoiding possible complications of surgical treatment.

Medical treatment by injecting a substance into an ectopic pregnancy to terminate it-both potassium chloride and hyperosmolar glucose can be used because they are embryotoxic drugs, while methotrexate is avoided because of its teratogenic effects on a viable intrauterine pregnancy.[7,8]

Surgical treatment: Laparoscopy or laparotomy. Laparotomy is the preferred method for hemodynamically unstable patients or patients with hemoperitoneum.[9]

CONCLUSION

The main risk of heterotopic pregnancy comes from the existence of ectopic pregnancy. An early pregnancy transvaginal ultrasound scan should be offered to women with high risk factors for ectopic pregnancy. When performing an ultrasound in early pregnancy, heterotopic pregnancy should be suspected in patients with an adnexal mass, even in the absence of risk factors. A high index of suspicion in women is needed for early and timely diagnosis, which can aid in successful obstetrical outcome.

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REFERENCES

1. Talbot K, Simpson R, Price N, Jackson SR. Heterotopic pregnancy. J Obstetr Gynaecol. 2011;31(1):7-12.
2. Chin HY, Chen FP, Wang CJ, Shui LT, Liu YH, Soong YK. Heterotopic pregnancy after in vitro fertilization-embryo transfer. Int J Gynaecol Obstetr. 2004;86(3):411-6.
3. Dor J, Seidman DS, Levran D, Ben-Rafael Z, Ben-Shlomo I, Mashiach S. The incidence of combined intrauterine and extrauterine pregnancy after in vitro fertilization and embryo transfer. Fertil Steril. 1991;55(4):833-4.
4. Melendez J, Paraskevopolou SM, Foo X, Yoong W. Heterotopic pregnancy: tubal ectopic pregnancy with a viable IVF intrauterine pregnancy. J Obstet Gynaecol. 2010;30(7):742-3.
5. Cucinella G, Gullo G, Etrusco A, Dolce E, Culmone S, Buzzaccarini G. Early diagnosis and surgical management of heterotopic pregnancy allows us to save the intrauterine pregnancy. Przeglad Menopauzalny. 2021;20(4):222-5.
6. Sohail S. Hemorrhagic corpus luteum mimicking heterotopic pregnancy. J College Physicians Surgeons-Pak. 2005;15(3):180-81.
7. Ocal P, Erkan S, Cepni I, Idil MH. Transvaginal ultrasound-guided aspiration and instillation of hyperosmolar glucose for treatment of unruptured tubal heterotopic pregnancy. Arch Gynecol Obstetr. 2007;276(3):281-3.
8. Deka D, Bahadur A, Singh A, Malhotra N. Successful management of heterotopic pregnancy after fetal reduction using potassium chloride and methotrexate. J Hum Reprod Sci. 2012;5:57-60.
9. Soares C, Maçães A, Veiga MN, Osório M. Early diagnosis of spontaneous heterotopic pregnancy successfully treated with laparoscopic surgery. BMJ Case Rep. 2020;13(11):e239423.

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