Rare disease

Recurrent ectopic pregnancy in a woman suffering from infertility due to male factor presented with heterotopic pregnancy

Hemang D Chaudhari, Viplav S Gandhi, Hiral Banker, Amar Suri

Radiology Department, Smt SCL Municipal General Hospital and NHL Municipal Medical College, Ahmedabad, Gujarat, India

Correspondence to Dr Hemang D Chaudhari, drhdc1@yahoo.com

Summary

Heterotopic pregnancy is the simultaneous occurrence of intrauterine and extrauterine pregnancies. A 27-year-old third gravida with history of two ectopic pregnancies, presented with cramping pain in pelvis radiating to left side and bleeding from vagina. Ultrasonographic diagnosis of heterotopic pregnancy was put forward. Unfortunately intrauterine component of heterotopic pregnancy resulted in blighted ovum and linear salpingostomy was done for left-sided tubal pregnancy.

BACKGROUND

Heterotopic pregnancy is a rare entity, with an incidence reported between 1:8000 and 1:30 000 pregnancies. The increasing use of ovulation inducing drugs and assisted reproductive techniques have contributed to the increased incidence of heterotopic pregnancies in recent times. We reported this case for its interesting history and its rarity. The patient conceived three times, the fate of all ended in ectopic pregnancies, initial two in right fallopian tube and third resulting in heterotopic pregnancy.

Figure 1 Hysterosalpingography plate of the patient done 4 months before, shows normal spillage of contrast from left fallopian tube.

CASE PRESENTATION

A 27-year-old woman G3 P0 A2 L0 presented with 8 weeks amenorrhea with cramping pain in pelvis radiating to left side and bleeding from vagina. She was third gravida and had history of two ectopic pregnancies. First ectopic pregnancy occurred in right fallopian tube and was managed conservatively. Second ectopic occurred in right fallopian tube again and was diagnosed on ultrasound as ruptured ectopic for which emergency laparotomy and right-sided salpingectomy was done. She tried to conceive naturally but in vain and started infertility treatment. Hysterosalpingography was done and it showed normal spillage of contrast from left tube (figure 1). Her husband's semen analysis showed sperm count of 16 millions and sperm motility was 50 per cent. Ovulation induction was done with clomiphene citrate and she conceived for the third time and presented at 8 weeks with above symptoms.

Figure 2 Uterus with well-defined gestational sac. Left adnexa shows fetal pole with cardiac activity. Gestational sac measures 28 mm consistent with 7 week 6 day maturity. Fetal pole in left adnexa measures 11 mm and corresponds to 7 week 5 day maturity. Cardiac activity was present in this fetal pole.

Figure 3 Closed view of uterus and left adnexa.

Figure 4 Uterus and adnexa after 4 day. Fetal pole in left adnexa stopped showing cardiac activity.

INVESTIGATIONS

Ultrasonography revealed single intrauterine gestational sac without fetal pole and with decidual reaction. G-sac measured 28 mm consistent with 7 week 6 day maturity and was diagnosed as early pregnancy failure. To our surprise left adnexa also showed gestational sac like structure with fetal pole which measured 11 mm and corresponds to 7 week 5 day maturity. Cardiac activity was present in this fetal pole (figure 2). It was unruptured ectopic pregnancy in left fallopian tube with a beating heart. Based on ultrasonography diagnosis of heterotopic pregnancy was made (figure 3). Routine blood investigation and rest of physical examinations were within normal limits.

TREATMENT

As the patient had history of right-sided salpingectomy and intrauterine pregnancy was not viable, gynaecologist decided to manage patient conservatively with intramuscular injections of methotrexate 50 mg and injection leucovorin 5 mg alternate day. Close follow-up of patient was done. Uterine pregnancy resulted in blighted ovum and after 4 days of treatment, fetal pole in left adnexa was without cardiac activity (figure 4). On the same day the patient had episodes of tachypnoea and hypotension and gynaecologist had to plan emergency laparotomy. Ectopic

Figure 5 Histopathological slide of the material from left fallopian tube shows, presence of products of gestation, chorionic villi and trophoblastic proliferation with plenty of blood clots.

pregnancy was in the ampulla of left tube and was about to rupture. Fortunately it was managed by linear salpingostomy. About 300 ml of blood collection also aspirated from pouch of douglas. Dilatation and evacuation was done as spotting per vaginum still present, and evacuated material from uterus was sent for histopathological examination along with the material from left tube.

OUTCOME AND FOLLOW-UP

Postoperative period of the patient was uneventful. Material sent for histopathological examination from left fallopian tube showed presence of products of gestation, chorionic villi and trophoblastic proliferation with plenty of blood clots, confirmed the diagnosis of left tubal ectopic pregnancy (figure 5). Material from uterus showed presence of chorionic villi with plenty of blood clots, confirmed the diagnosis of intrauterine pregnancy (figure 6). The patient was discharged on 8th postoperative day and was asked for regular follow-up for further management of infertility.

DISCUSSION

Heterotopic pregnancy is the simultaneous occurrence of intrauterine and extrauterine pregnancies. The incidence

Figure 6 Histopathological slide of the material from the uterus, shows presence of chorionic villi with plenty of blood clots.

was originally estimated on theoretical basis to be 1 in 30 000 pregnancies. However, more recent data indicate that the rate is higher due to assisted reproduction and is approximately 1 in 7000 overall and as high as 1 in 900 with ovulation induction.^{1 2}

The increased incidence of multiple pregnancy with ovulation induction and IVF increases the risk of both ectopic and heterotopic gestation. The hydrostatic forces generated during embryo transfer may also contribute to the increased risk.¹

There may be an increased risk in patients with previous tubal surgeries.³

Most commonly, the location of ectopic gestation in a heterotopic pregnancy is the fallopian tube. However, cervical and ovarian heterotopic pregnancies have also been reported.^{4 5}

High resolution transvaginal ultrasound with color Doppler will be helpful as the trophoblastic tissue in the

adnexa in a case of heterotopic pregnancy shows increased flow with significantly reduced resistance index.²

The treatment of a heterotopic pregnancy is laparoscopy/laparotomy for the tubal pregnancy.⁶

Learning points

- ▶ Heterotopic pregnancy should always be considered, especially in patients with prior history of ectopic pregnancy and those undergoing ovulation induction and more concern should be given to the patients like in our case who have precious pregnancy.
- ▶ Ultrasonography is a very good modality for diagnosis of ectopic pregnancy or heterotopic pregnancy and if timely ultrasound would have done, early intervention of ectopic pregnancy might have been done and intrauterine pregnancy might have been saved.
- ▶ Male factor is also responsible for infertility so simultaneous evaluation of both of them should be done.

Competing interests None.

Patient consent Obtained.

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