

# Heterotopic Pregnancy: Successful Management by Laparoscopic Salpingectomy in First Trimester and Continuation of Intrauterine Pregnancy until Term

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## ABSTRACT

**Introduction:** We report a case of a heterotopic pregnancy (HP) with resultant normal intrauterine pregnancy after laparoscopic salpingectomy. A heterotrophic pregnancy is defined as the coexistence of intrauterine and extrauterine gestation. Incidence is more common in infertility patients conceived after treatment than natural conception. A 20-year-old primigravida presented with 7 weeks amenorrhea, pain in abdomen, and per vaginal spotting. The ultrasound (USG) report was suggestive of a right-sided adnexal mass indicative of either tubal ectopic along with an intrauterine live gestation of 7 weeks and hemoperitoneum. Emergency laparoscopy was done and right salpingectomy was done in view of right ruptured tubal ectopic pregnancy. The intrauterine pregnancy then continued subsequently to 35 weeks of gestation as on September 18, 2017. Early diagnosis and prompt intervention are essential to save the intrauterine pregnancy and avoid maternal morbidity and mortality related to hemoperitoneum due to ruptured ectopic pregnancy.

**Keywords:** Hemoperitoneum, Heterotopic pregnancy, Laparoscopy, Salpingectomy.

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## INTRODUCTION

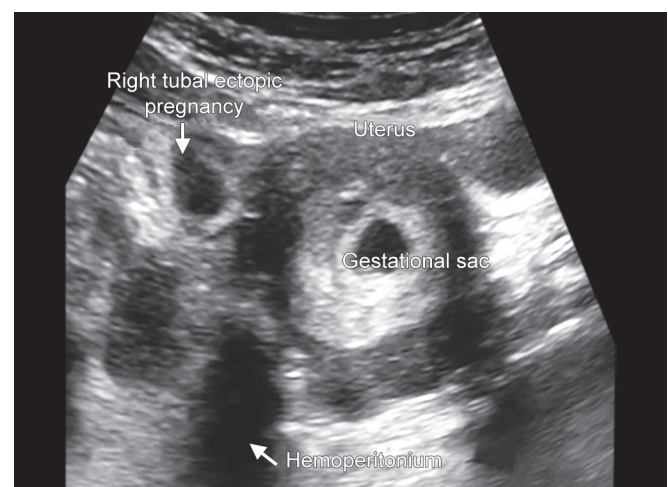
A heterotrophic pregnancy is defined as the presence of an intrauterine and extrauterine pregnancy together.<sup>1,2</sup> It is common with assisted reproductive techniques like ovulation induction and *in vitro* fertilization (1:7,000) and is very rare in natural conception (1:30,000).<sup>3</sup> Diagnosis and management of HP are great challenges for obstetricians. Early diagnosis and prompt intervention are

essential to save the intrauterine pregnancy and avoid maternal morbidity and mortality related to hemoperitoneum due to ruptured ectopic pregnancy.<sup>4</sup> Laparoscopy with minimal or no manipulation of uterus can be used as an effective minimal invasive treatment tool to salvage intrauterine pregnancy and prevent morbidity related to hemoperitoneum and laparotomy. Here, we present a case of a 20-year-old primigravida with HP (7 weeks live intrauterine pregnancy with ruptured right tubal ectopic pregnancy) managed by laparoscopic salpingectomy and with successful continuation of intrauterine pregnancy until term.

## CASE REPORT

A 20-year-old primigravida presented with 7 weeks amenorrhea, pain in abdomen, and per vaginal spotting. The USG report was suggestive of a right-sided adnexal mass indicative of tubal ectopic pregnancy along with an intrauterine single live gestation of 7 weeks and hemoperitoneum (Figs 1 and 2).

It was spontaneous conception. There was no risk factor present, e.g., infertility treatment, pelvic infection, or contraceptive use. A diagnosis of live intrauterine pregnancy with rupture of the extrauterine (tubal) pregnancy was made. Hemodynamically, patient was stable. Routine laboratory tests and serum beta human chorionic gonadotropin (hCG) were ordered. Adequate

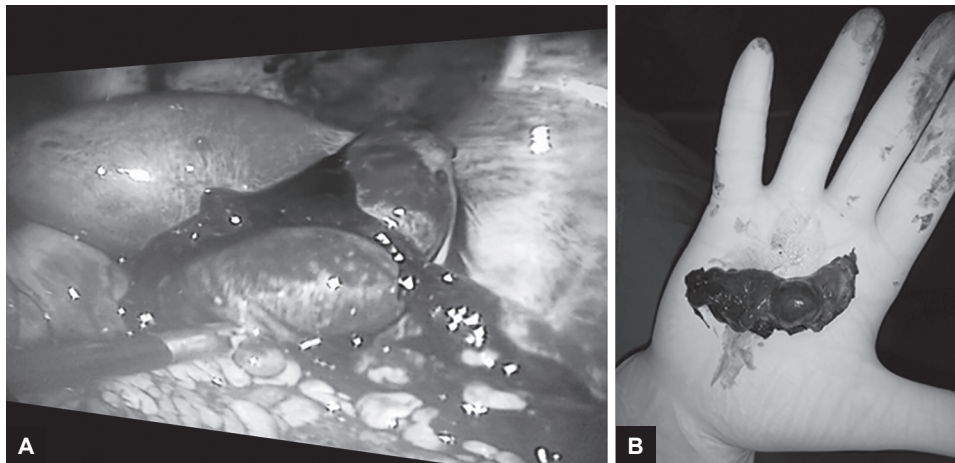


**Fig. 1:** Ultrasound suggestive of intrauterine pregnancy with right tubal ectopic pregnancy with hemoperitonium

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**Figs 2A and B:** Right ruptured tubal ectopic pregnancy with salpingectomy done

blood and blood components were arranged. Couple was counseled for emergency laparoscopy, complications, and future risk of abortion and the couple gave consent for procedure. Anesthesia team was informed regarding the same so that they should be cautious while using drugs as we were planning to continue intrauterine pregnancy.

Under general anesthesia, laparoscopy was performed with one suparumbilical 10 mm and two 5 mm left lateral ports. A significant amount of hemoperitoneum (400–500 mL) was found. After suctioning the clots from the pelvis, a mass within the right fallopian tube was identified consistent with an ectopic pregnancy. The mass was approximately 4 × 4 cm, with rupture at the isthmoampullary region. A right salpingectomy was then performed with minimal handling of the uterus.

Preoperative serum beta hCG was 1,20,000 mIU/mL. Immediate postoperatively injection hCG 10,000 IU and injection hydroxyprogesterone depot 500 mg intramuscularly were given and continued weekly until 12 weeks. Postoperative USG on day 3 was suggestive of live intrauterine pregnancy. The patient recovered well and was discharged home on postoperative day 7, and the intrauterine gestation was viable. Histopathology examination of the right fallopian tube and its contents revealed chorionic villi, confirming the diagnosis of a tubal pregnancy. Further USG 1 month after the laparoscopy revealed a viable intrauterine singleton fetus with gestational age of 12 weeks with normal nuchal translucency scan. She is receiving routine antenatal care and the pregnancy as of September 18, 2017 was 35 weeks of gestation.

## DISCUSSION

Heterotopic pregnancy is usually considered a rare event. However, the incidence of HPs is increasing, especially with ovulation induction and use of assisted reproductive technology. But, it can also occur in spontaneous conceptions. Diagnosing an HP can be challenging. However,

the diagnosis should be made early so that treatment can be initiated in a timely manner to prevent morbidity and mortality.

Ectopic pregnancy and HPs are usually diagnosed in the early first trimester.<sup>5</sup> Tal et al<sup>6</sup> reported that 70% of the HPs were diagnosed between 5 and 8 weeks of gestation, 20% between 9 and 10 weeks, and only 10% after the 11th week. We should offer an early USG scan in patients who have had a positive pregnancy test, between 6 and 7 weeks of gestation as was done in our patient. The majority were diagnosed late and serum beta hCG and transvaginal USG are not foolproof, resulting in significant morbidity and occasional mortality. In HP, hCG levels are almost the same as of normal intrauterine pregnancy. On USG, as intrauterine gestation is seen, and extrauterine pregnancy can be missed. Heterotopic pregnancies are also confused with hemorrhagic corpus luteal cyst. Methotrexate or KCl can be used for conservative management.<sup>6–8</sup> Surgical treatment remains the most common therapy in most patients. As in our case, laparoscopy can be used when a patient is hemodynamically stable. But in unstable patients, laparotomy should be done.<sup>9</sup>

## CONCLUSION

This report has demonstrated that early first trimester transvaginal USG should be performed for all pregnancies and coexisting adnexal mass with intrauterine gestation should raise an index of suspicion for possible HP. This case demonstrates that early diagnosis is essential to prevent morbidity and mortality.

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