

Combined Ovarian and Bilateral Tubal Pregnancy in Spontaneous Conception: Case Report

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Abstract

We are reporting a rare case of bilateral tubal pregnancy with unilateral ovarian pregnancy diagnosed intra-operatively and managed with bilateral salpingectomy. Although coexisting multiple ectopic pregnancy is more associated with artificial reproductive techniques, being spontaneous conception makes this case rarer.

Keywords: Ectopic Pregnancy; Ovarian Pregnancy; Bilateral; Salpingectomy

Introduction

Implantation of fertilized egg outside the uterine cavity is ectopic pregnancy which occurs with an incidence of 1 - 2% [1]. Bilateral tubal pregnancy is extremely rare, having significant diagnostic and management challenges and increased emergency for women's life.

Clinical presentation for bilateral tubal pregnancy can be unpredictable and there are no unique features to distinguish it from unilateral ectopic pregnancy.

Bilateral tubal pregnancy continues to be a clinician dilemma as preoperative diagnosis is difficult and is commonly diagnosed intra operatively. Treatment options depend on site, extent of tubal damage and future fertility requirement.

Case Report

30 years old primigravida married for 4 years with history of primary infertility due to left sided tubal block was referred from private hospital to emergency department with mild abdominal pain and 7 weeks amenorrhea.

She has history of failed IVF trial 18 months back and conceived spontaneously this time. No history of pelvic inflammatory disease or use of intrauterine devices.

On examination, blood pressure was 114/79 and heart rate 88/minute. Abdomen relaxed with no tenderness. Beta Hcg 29795 IU/L and Hb was 11 g/dl (Table 1: Beta Hcg values 3).

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Date	Beta Hcg (IU/L)
1/1/2024	29,231.00
2/1/2024	8179.00
11/1/2024	157.00

Table 1: Beta Hcg values.

Vaginal examination showed normal sized uterus with mild bleeding, right fornix tenderness and no obvious mass felt. Transvaginal ultrasound scan revealed an empty uterine cavity with an endometrial thickness of 7 mm. Right adnexa seen with gestational sac and small embryonic pole (CRL 0.68 cm 6 weeks 4 days) with positive cardiac activity. Left ovary seen with multiple follicles. There was mild free fluid in pouch of Douglas. Ultrasound findings and Beta Hcg suggested of right live ectopic pregnancy.

She underwent laparoscopy. There was hemoperitoneum of around 300 ml. Left tube distended with ectopic pregnancy and hemosalpinx of 7 cm in size. Right tube distended at ampullary end and ectopic mass about 2 x 3 cm and adherent to right ovary with bleeding from fimbria end. Right ovary seen with cystic mass of 3 x 3 cm with oozing arousing the suspicion of corpus luteal cyst or ovarian ectopic pregnancy. Left ovary looks normal. Uterus distorted with small multiple fibroids. There were multiple endometriotic spots in pouch of Douglas more in right side. In view of the findings, longstanding infertility and IVF treatment went ahead with bilateral salpingectomy and right ovarian cystectomy. The histopathology specimen revealed chorionic villi in both right tube and right ovary. Left tube showed ectopic decidual tissue. Diagnosed as coexisting ectopic pregnancy in bilateral tube and right ovary.

Postoperatively she received intravenous 48 hours antibiotics followed by oral. Received intravenous injectable Iron as Hb dropped to 8.5 g/dl.

Beta-hCG reduced to 8157 IU/L on day 2 after surgery.

Patient discharged on postoperative second day. Debriefed the couple about the intra-operative findings. Advised further follow up and explained that she can conceive by IVF in future.

Further follow up in the clinic found to be asymptomatic all the wound healed well and beta-hCG was 157 IU/L after 10 days of surgery and negative pregnancy test at home done 3 weeks after surgery. Patient got a spontaneous menstruation after 5 weeks post-surgery.

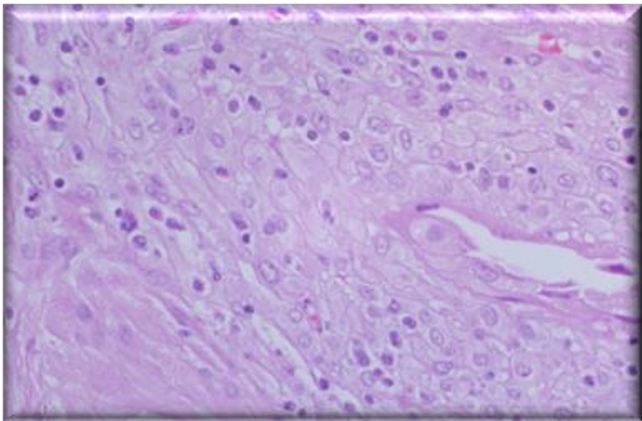


Figure 1: Hematoxylin eosin staining at 40x: Decidual tissue-left fallopian tube tissue.

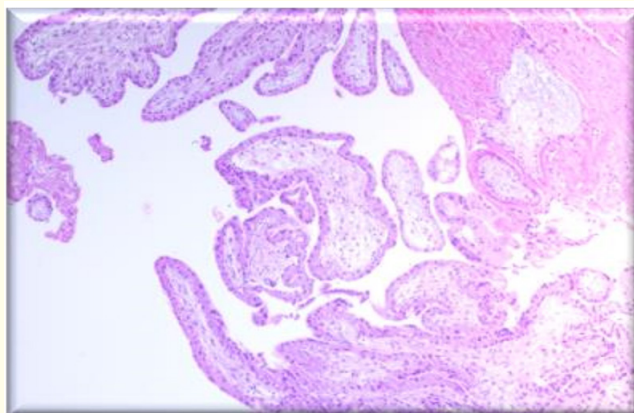


Figure 2: Hematoxylin eosin staining at 40x: Lumen with chorionic villi-right fallopian tube tissue.

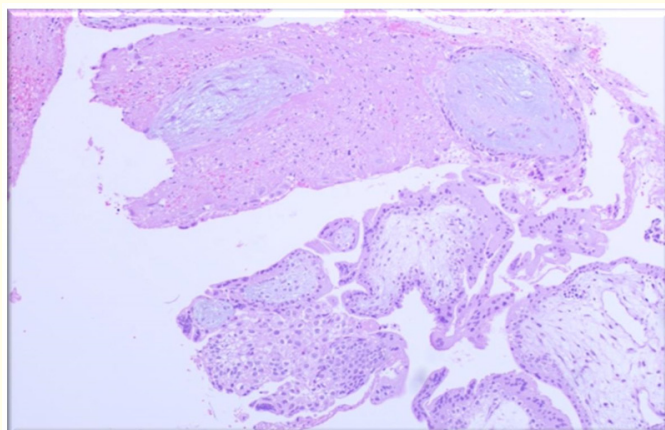


Figure 3: Hematoxylin eosin staining at 40x: Chorionic villi-right tuboovarian tissue.

Discussion

While unilateral tubal ectopic pregnancies is the commonest form of ectopic gestation Bilateral simultaneous tubal ectopic pregnancy is an exceptionally rare with reported incidence of 1 in 725 - 1580 ectopic pregnancies [2] which is corresponding to 1/200,000 of all live pregnancies [1]. Ectopic ovarian pregnancy accounts for 0.5 - 1% of all ectopic that is 1/7,000 - 40,000 of all life pregnancies [3]. Hence this case represents an exceptionally rare presentation of bilateral tubal and right ovarian ectopic pregnancy.

The incidence is higher in woman undergoing assisted reproductive techniques and ovulation induction.

Suggested Theories for multiple ectopic pregnancies and bilateral tubal pregnancy includes simultaneous multiple ovulations, sequential impregnation, trans peritoneal migration of trophoblastic cells explains the occurrence. Pathophysiology of ovarian pregnancy suggest that fertilisation of an egg retained in peritoneal cavity leading to implantation over ovarian surface [4]. The diagnostic criteria

laid out by fishback who suggested they should be a description of fetal parts of fetus as well as placental parts from for tubes this was later modified by Nora so stated that microscopic demonstration of chorionic villi in both tubes for sufficient for diagnosis [5].

Thus, in most cases the diagnosis remains essentially surgical or postoperative with histopathology reports.

Previous ectopic pregnancy, tubal surgery, documented tubal pathology, in utero DES exposure are considered as strongest risk factors for ectopic pregnancy. Likewise, previous genital infection, infertility and multiple sexual partners has increased risk [6]. In case of IVF pregnancy, complication of ectopic pregnancy is relatively common occurring 1 - 3% of IVF conception [7]. Although patient had history of failed IVF trials, and this being spontaneous conception, this case represents the rarest incidence. Analysing the aetiology, documented tubal block and history of infertility are evident risk factors in this case.

Clinical presentation of ectopic pregnancy includes the classic triad of amenorrhea, vaginal bleeding and abdominal pain cannot reliably differentiate between unilateral tubal ectopic pregnancy or bilateral tubal pregnancy.

In one case series of ectopic pregnancies, abdominal pain presented in 98.6% of patients, amenorrhea in 74.1% of them, and irregular vaginal bleeding in 56.4% of patients [8]. Early diagnosis is essential to prevent further morbidity and mortality.

Correlation of beta Hcg levels with ultrasound findings is significant for proper diagnosis. Single test for ectopic pregnancy diagnosis is transvaginal ultrasound with a sensitivity of 90.9% and specificity of 99.9% [9]. In this case only unilateral pregnancy diagnosed preoperatively. This underscores the difficulty in diagnosing multifocal ectopic pregnancies. High Beta Hcg levels (29,795 IU/L) combined with an empty uterine cavity and adnexal mass necessitated surgical exploration for further diagnosis and management.

Ultrasound has rarely picked up bilateral tubal pregnancy preoperatively and except in the presence of live embryos in both tubes. presence of unilateral ectopic pregnancy or adnexal masses has the same clinical presentation as bilateral tubal pregnancy and therefore proper examination of the other tube with ultrasound maybe missed thus ultrasound cannot be advocated at the standard of care in the diagnosis of bilateral tubal pregnancy.

Laparoscopy is the preferred diagnostic and therapeutic approach for ectopic pregnancies. The complexity of this case required meticulous surgical planning due to the involvement of both fallopian tubes and the right ovary, as well as the presence of fibroids and endometriosis.

The patient required stabilization of her hemoglobin levels and infection prevention postoperatively. Given the bilateral salpingectomy, natural conception is unlikely, and IVF remains the only viable option for future pregnancies. Comprehensive counseling on IVF success rates and potential complications is essential.

Conclusion

Bilateral tubal pregnancy represents a clinician's dilemma as presentation is quite like that of unilateral ectopic pregnancy and can be easily missed. It is an exceptionally rare and life threatening with diagnostic and treatment challenges. Diagnosis requires high index of suspicion especially in high risk cases with tubal pathology/infertility history. Transvaginal ultrasound and beta Hcg levels plays crucial role in diagnosis. Although MRI is not routinely used in evaluation, it can be recommended in complex cases where ultrasound findings are inconclusive or if detailed anatomical information is required for clinical decision making.

There are no treatment guidelines of protocols available for the management of this rare clinical entity. The treatment dilemma arises in balancing the fertility preservation and clinical management. Medical management with methotrexate is applicable for selected patients considering the hemodynamic stability, viability of fetal pole, beta Hcg level and status of ectopic pregnancy. In this case, since

the ectopic fetus was viable and high beta Hcg level, surgical management with laparoscopy was preferred. However, laparotomy may be required in cases with extensive hemorrhage.

This case underscores the significance of proper evaluation of adnexa to avoid any missing of multiple coexisting ectopic pregnancy and individualized management strategies to improve outcome. As loss of fallopian tube in a sub fertile female imposes further emotional trauma, postoperative counseling regarding the possible treatment methods of IVF and psychological support is necessary.

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