

Primary Ovarian pregnancy-A rare Case with Review of Literature

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Case Report

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Abstract: Ovarian pregnancy is a rare variant of non tubal ectopic pregnancy with an incidence of around 3 % among all ectopic pregnancies. The diagnosis pre operatively is challenging and is therefore based on intraoperative and histopathological observations. It can result in grave outcomes if left untreated. Hence timely diagnosis and appropriate treatment either medically or surgically is crucial. Here we report a case of ruptured primary ovarian pregnancy, who mainly presented with pain lower abdomen with a positive urine pregnancy test. Based on ultrasound finding a diagnosis of ruptured ectopic pregnancy was made. Laparotomy was performed which revealed a ruptured ovarian pregnancy with hemo-peritoneum. Partial ovarian resection was done and the patient had an uneventful postoperative period. Diagnosis of ovarian pregnancy remains a challenge and is usually confirmed based on intraoperative and histopathological finding. Early diagnosis can be made with high index of suspicion and transvaginal ultrasound by skilled radiologist. This is significantly helpful in reducing maternal morbidity and mortality.

Keywords: Ovarian Pregnancy, Nontubal ectopic pregnancy, Ruptured ectopic pregnancy

IN INTRODUCTION

Ovarian pregnancy was described for the first time in 1614 by Mercier, as a condition separate from a tubal pregnancy. Boehmer also classified extra-uterine pregnancy into three classes: abdominal, ovarian, and tubal. In 1899, Catharine van Tussenbroek finally proved the existence of ovarian pregnancy, by providing the first accurate clinical and histological description of a case. According to Heartig, ovarian pregnancy occurs in one in 25,000- 40,000 pregnancies [1].

At present its frequency is 0.3-3.0% of all ectopic gestation [2, 3]. The cause of primary ovarian pregnancy remains difficult to understand. However as Borrow stated, chance is a reasonable explanation of ovarian pregnancies [4]. The usual causative factors implicated in tubal ectopic pregnancy like pelvic inflammatory disease and pelvic surgery seems to be uninvolved [5]. Intrauterine device (IUD) is an important risk factor stated in different studies [5,6]. An intrauterine contraceptive device is found in 14-30% of patients with a nonovarian extra uterine pregnancy while it is found in proportions ranging from 57-90% of patients with a primary ovarian pregnancy [5,8-12]. Patients undergoing IVF therapy are at higher risk for ovarian pregnancy [13]. Although diagnosis can be

made on basis of sign symptoms, serum B HCG levels and transvaginal ultrasound preoperatively; confirmation is essentially based on intraoperative findings and histopathology [14]. An untreated ovarian pregnancy can cause potentially fatal intra abdominal bleeding and hence may become a medical emergency. Early diagnosis of ovarian pregnancy is necessary to prevent serious complications and emergency invasive procedures. Treatment of an ovarian ectopic pregnancy has been surgical, or medical with Methotrexate.

CASE REPORT

A 28 year old G2P1L1 woman with previous one cesarean section was admitted in our hospital with 2 months of amenorrhoea with the chief complaints of

pain lower abdomen for 2 to 3 days. There was no bleeding per vagina. The period of gestation calculated from her last menstrual period was 4 weeks 6 days. Urine for B HCG was positive. On examination of the patient; vitals were: PR -92/min, BP-100/60 mmHg, pallor present, per abdomen examination revealed generalized guarding and mild tenderness over the right iliac fossa. Bowel sounds were sluggish. On per speculum examination -cervix was normal. On per vaginum examination - uterus was normal size, cervical motion was tender. Transvaginal ultrasound was done with a suspicion of ectopic pregnancy which revealed right adnexal mass of 7weeks 3 days gestation, with probe tenderness and significant fluid seen in POD. Uterine cavity was empty. Features were suggestive of

ruptured ectopic pregnancy. Beta Hcg value was 31624mIU/ml on admission. Patient was taken up for emergency laprotomy on the same day. Operative findings included 1000ml of hemoperitoneum with right sided ruptured ovarian ectopic pregnancy. Right ovary slightly enlarged bleb like structure present on ovary which was bleeding. Left side tubes and ovaries were normal. Right side tube and fimbria were normal. Partial resection of right side of ovary was done. Histopathology report showed features suggestive of ovarian pregnancy as trophoblastic cells were seen with ovarian tissue (Figure 1,2). Post operative period was uneventful and the patient was discharged after 4 days and is in our regular follow up.

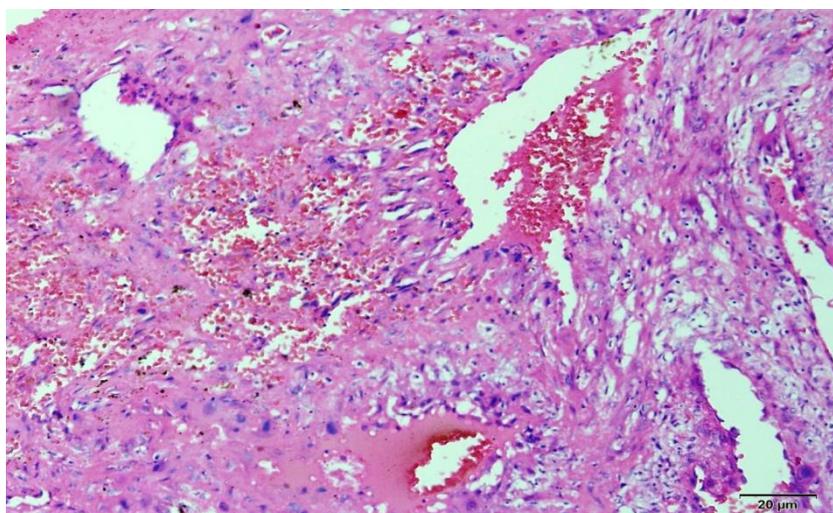


Fig-1: Showing ovarian stroma with extensive decidual reaction

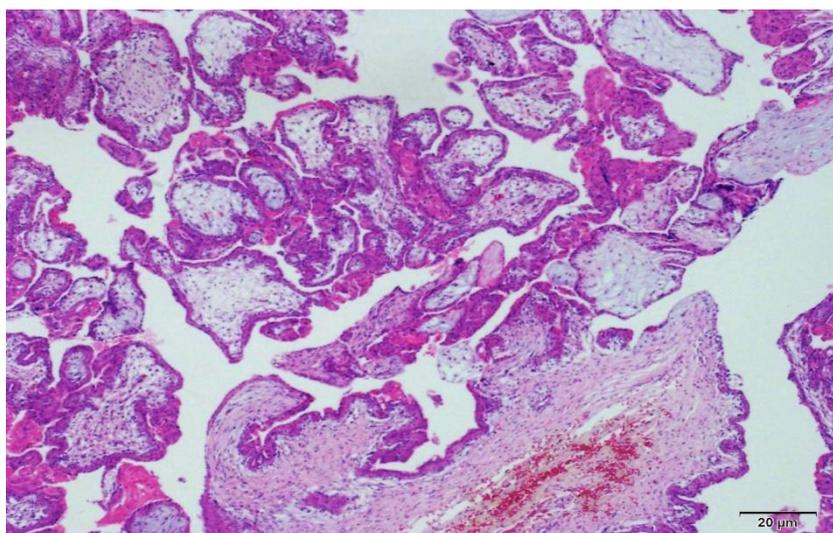


Fig-2: Villous structure seen against fibro-collagenous core

DISCUSSION

The diagnosis of primary ovarian pregnancy is difficult and is based on Spigelberg criteria

(intraoperative findings and the histopathology examination) which are as follows:

- intact fallopian tube on the affected side,

- fetal sac must occupy the position of the ovary on the affected side,
- ovary connected to the uterus by ovarian ligament,
- ovarian tissue must be located in the sac wall, which is confirmed by histopathology [15].

The patient most commonly present with abdominal pain with preceding history of short duration of amenorrhea and, to a lesser degree, vaginal bleeding during pregnancy. Patients may present with hypovolemia or shock due to rupture and internal bleeding [6]. Other differential diagnoses are ruptured hemorrhagic corpus luteum, chocolate cyst or tubal ectopic pregnancy [16]. Almost all ovarian pregnancies rupture in the first trimester but very rarely pregnancy may advance to full term as an abdominal pregnancy [17]. With the improvement in the ultrasound facilities and techniques, especially with the use of vaginal probe, ovarian pregnancy can be diagnosed pre-operatively [18]. Ovarian pregnancies usually appear on or within the ovary as a cyst with a wide echogenic outside ring. A yolk sac or embryo was less commonly seen. The appearance of the contents lagged in comparison with the gestational age [8].

Treatment consists of a single dose methotrexate protocol or conservative surgery. Preferred is partial ovarian resection or an oophorectomy [19]. Traditionally, an explorative laparotomy was performed whereas today, the surgery can frequently be performed laparoscopically [19]. In present era, there are cases reported where laparoscopy was successfully done even in ruptured ovarian ectopic in an unstable patient [20]. Methotrexate treatment in tubal ectopic pregnancy has a success rate of 82%, with the beta HCG level between 10,000 and 14,999 mIU/mL, [21] although the American Society of Reproductive Medicine guidelines states that a beta HCG level more than 5000 mIU is a relative contraindication to medical therapy [22].

CONCLUSION

Ovarian pregnancy is a rare variant of ectopic pregnancy which can result in dangerous consequences due to internal bleed. Diagnosis remains a challenge and is usually confirmed based on intraoperative and histopathological finding. Early diagnosis can be made with high index of suspicion and transvaginal ultrasound by skilled radiologist. This is significantly helpful in reducing maternal morbidity and mortality.

REFERENCES

1. Hertig AT. Discussion of Gerin-Lojoie L. Ovarian pregnancy. *Am J Obstet and Gynecol.* 1951;62:920.
2. Odejinmi F, Rizzuto MI, MacRae R, Olowu O, Hussain M. Diagnosis and laparoscopic management of 12 consecutive cases of ovarian pregnancy and review of literature. *J Minim Invasive Gynecol.* 2009; 16: 354-359.
3. Salas Valien JS, Reyero Alvarez MP, Gonzalez Moran MA, Garcia Merayo M, Nieves Diez C. Ectopic ovarian pregnancy. *An Med Intern.* 1995;12:192-4.
4. Borrow RC, McElin TW, West RH, Bukingham JC. Ovarian pregnancy; Report of four cases and a thirteen-year survey of the English literature. *Am J Obstet Gynecol.* 1965;91:1095-6.
5. Ercal T, Cinar O, Mumcu A, Lacin S, Ozer E. Ovarian pregnancy; relationship to an intrauterine device. *Aust N Z J Obstet Gynaecol.* 1997; 37: 362-364.
6. Raziell A, Schachter M, Mordechai E, Friedler S, Panski M, Ron-El R. Ovarian pregnancy—a 12-year experience of 19 cases in one institution. *European Journal of Obstetrics & Gynecology and Reproductive Biology.* 2004 May 10;114(1):92-6.
7. Bouyer J, Rachou E, Germain E, Fernandez H, Coste J, Pouly JL, Job-Spira N. Risk factors for extrauterine pregnancy in women using an intrauterine device. *Fertility and sterility.* 2000 Nov 30;74(5):899-908.
8. Comstock C, Huston K, Lee W. The ultrasonographic appearance of ovarian ectopic pregnancies. *Obstet Gynecol.* 2005; 105: 42-45.
9. Ghi T, Banfi A, Marconi R, Iaco PD, Pilu G, Aloysio DD, Pelusi G. Three-dimensional sonographic diagnosis of ovarian pregnancy. *Ultrasound in obstetrics & gynecology.* 2005 Jul 1;26(1):102-4.
10. Raziell A, Golan A, Pansky M, Ron-El R, Bukovsky I, Caspi E. Ovarian pregnancy: a report of twenty cases in one institution. *Am J Obstet Gynecol.* 1990; 163: 1182-1185.
11. Herbertsson G, Magnusson SS, Benediktsdottir K. Ovarian pregnancy and IUCD use in a defined complete population. *Acta Obstet Gynecol Scand.* 1987; 66: 607-610.
12. Cabero A, Laso E, Lain JM, Manas C, Escribano I, Calaf J. Increasing incidence of ovarian pregnancy. *Eur J Obstet Gynecol Reprod Biol.* 1989; 31: 227-232.
13. Priya S, Kamala S, Gunjan S. Two interesting cases of ovarian pregnancy after in vitro fertilization–embryo transfer and its successful laparoscopic management. *Fertility and sterility.* 2009 Jul 31;92(1):394-e17.
14. Scutiero G, Di Gioia P, Spada A, Greco P. Primary ovarian pregnancy and its management. *JLS.* 2012; 16: 492-494.
15. Spigelberg O. Casusistik der ovarial schwangerschaft. *Arch Gynecol.* 1878;13:73.
16. Mehmood SA, Thomas JA. Primary ectopic ovarian pregnancy, report of three cases. *J Postgrad Med.* 1985;31:219.

17. Darbar RD, Reddy CC, Despande NR, Nagalotimath SJ. Primary Ovarian Pregnancy (a case report). *J Obstet Gynecol India*. 1976;28:310.
18. Russel JB, Cutler LR. Transvaginal ultrasonographic detection of primary ovarian pregnancy with laparoscopic removal. *Fertil Steril*. 1989;51:1055.
19. Chahtane A, Dehayni M, Rhrab B, Kharbach A, El Amrani S, Chaoui A. Ovarian pregnancy: Four cases with review of literature. *Rev Fr Gynecol Obstet*. 1993;88:35-8.
20. Odejinmi F, Sangrithi M, Olowu O. Operative laparoscopy as the mainstay method in management of hemodynamically unstable patients with ectopic pregnancy. *Journal of minimally invasive gynecology*. 2011 Apr 30;18(2):179-83.
21. Lipscomb GH, McCord ML, Stovall TG, Huff G, Portera SG, Ling FW. Predictors of success of methotrexate treatment in women with tubal ectopic pregnancies. *N Engl J Med*. 1999;341:1974-8.
22. Practice Committee of the American Society for Reproductive Medicine. Medical treatment of ectopic pregnancy. *Fertility and Sterility*. 2008 Nov 30;90(5):S206-12.