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Case Report

A rare case report of ovarian ectopic pregnancy – Expect the unexpected sometimes

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ABSTRACT

Ectopic pregnancy is implantation of an embryo at sites other than its normal location - the uterine cavity. The most common site for ectopic implantation is the fallopian tube, other rare sites being ovarian ectopic, cervical ectopic and caesarean scar ectopic. Ovarian ectopic pregnancy accounts to around 3% of all ectopics, incidence being 1 in 2000 to 1 in 60,000. In this rare form of ectopic the implantation and development of embryo occurs in the ovary and eventually ends with rupture before the end of first trimester causing catastrophic results due to hemorrhage and hemostatic imbalance and sometimes even death. This case report is of such a rare form of ectopic pregnancy reported at ISO-KGH, Department of Obstetrics and Gynaecology, Government Medical College, Omandurar Government Estate, Chennai.

1. Case Summary

Mrs.X, aged 23 years, Primigravida, married for 8 months with history of 10 weeks of amenorrhea presented to emergency casualty with complaints of hypo gastric pain and vomiting for 2 days. There was history of giddiness and also breathlessness for past 6 hours. [1–5]

Her menstrual cycles were regular; she had confirmed pregnancy by urine pregnancy test 10 days of her missed periods at her home. She had not booked the current pregnancy and no confirmatory ultrasound had been done. There was no use of contraception of any form and no significant relevant past medical and surgical history was present.

On examination, she was severely anemic and vitals revealed hypotension, tachycardia and tachypnea. Bimanual pelvic examination revealed a soft cervix with cervical motion tenderness and forniceal fullness in the left fornix. The uterus was normal in size and minimal blood staining was present on the examining finger.

2. Management

A repeat urine pregnancy test was done and was positive, pelvic ultrasound was performed in the emergency room that showed haemoperitoneum and evidence of clots in the abdominal cavity. The uterine cavity was empty. The patient was resuscitated with crystalloids and with a diagnosis of ruptured tubal ectopic pregnancy she was immediately shifted for emergency laparotomy with adequate blood and blood products. [6–9] The laparotomy findings were presence of haemoperitoneum of around 1 litre and blood clots of around 150 grams. To our surprise both the right and left fallopian tubes were intact with no evidence of rupture or tubal abortion. The left ovary was bleeding and a raw area was present on the surface which was probably the rupture site. As the ovarian site bleeding could not be arrested left ovariectomy was done and tissues were sent for

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histopathological examination. Blood loss was adequately replaced, the post operative period was uneventful and the patient was discharged in a healthy condition. The histopathology report confirmed it to be an Ovarian ectopic pregnancy with evidence of fetal tissue implantation on the ovarian cortex.

Fig. 1: Ovarian ectopic site with bleeding from it's bed

3. Discussion

Ovarian ectopic pregnancy is classified as primary or secondary depending on the site of fertilization of the embryo of the ectopic gestation. Primary ovarian ectopic occurs when the fertilization and subsequent implantation occurs in the ovary itself. It is further classified into intra-follicular and extra-follicular types. In the intra-follicular type the fertilization and subsequent implantation occurs within the follicle prior to expulsion of the ovum.[10,11] The extra follicular variety occurs when the ovum after being released from the follicle is fertilized and the embryo then gets embedded on the ovarian surface. Secondary ovarian ectopic are those where the fertilization occurs primarily in the fallopian tube and later due to retrograde travel of the fertilized embryo from the ampulla of the fallopian tube gets implanted onto the ovarian surface.

The various factors that pose a risk for the occurrence of such a rare form of ectopic gestation are presumed to be placement of an intrauterine contraceptive device that alters tubal function and affects the salpingeal mucosal motility favoring regurgitation of the embryo backwards towards the ovary. Increasing surge of assisted reproductive techniques have also resulted in producing an increase in the incidence of ovarian ectopic, the mechanism being affected tubal motility and contractility due to usage of multiple exogenous hormones. There is also a chance of the embryos placed in the uterine cavity to travel in reverse and get implanted at the ovarian surface. If a large volume of culture medium is used while injecting the embryos with elevated pressure there is also a high chance of ovarian ectopic pregnancy (Dursun et al.).[12,13] Severe form of endometriosis affecting both ovaries and the surrounding pelvic tissues with resultant adhesions and kinking of tubes can also lead to development of an ovarian ectopic.(Ghasmi et al. 2014).

Speilgelberg (1973) has laid down the following criteria to be present to confirm it as ovarian ectopic pregnancy –

1. Fallopian tube on the affected side must be intact.
2. Fetal sac must occupy the position of ovary.
3. The ovary must be connected to the uterus by the ovarian ligament.
4. Ovarian tissue must be located in the sac wall on Histopathological examination.

Diagnosis of an unruptured ovarian pregnancy needs a high degree of radiological expertise and mostly the ovarian ectopics are diagnosed clinically as tubal gestations only as occurred in our case. The signs and symptoms of both the ovarian and tubal ectopic are similar being amenorrhea, abdominal pain and if ruptured features of hemo-peritoneum and shock due to hemorrhage. The various diagnostic modalities available include a positive test for HCG by urinary testing or serum assay. The doubling time of serum beta HCG is also less than normal as in all ectopic pregnancies. Pelvic ultrasound has few well differentiating features being presence of a wide echogenic ring within an internal echo lucent area on the ovarian surface and presence of an ovarian cortex around the mass and the echogenicity of the ring being greater than the ovarian size itself. (Razie et al. 2004, Levine 2007).

MRI and CT scan may be used to confirm the diagnosis but they are not routinely used due to lack of suspicion as they are mostly diagnosed as being tubal ectopic gestation. The gold standard test for diagnosis of and ovarian ectopic prior rupture is Diagnostic laparoscopy.(Marfi, Ghi).

Management of an Ovarian ectopic is either medical or surgical. Unruptured ovarian ectopics can be successfully managed medically with methotrexate, however there is an increased chance bleeding. This is because of absence of adequate muscular support like in myometrium the villi necrosis can cause heavy bleeding from the ovarian surface from the basal vessels, hence close monitoring is vital. Surgical management prior rupture can be done laparoscopicaly by removal of the sac and leaving behind the normal ovarian tissue as possible so as to ensure future fertility. But once rupture occurs the chances of conserving the ovary becomes difficult especially if the surface bleeding is uncontrollable. The surgeries are to be done with care with no damage to the normal fallopian tubes so as not to affect future chances of pregnancy.

In our case, there was no chance of diagnosis prior rupture as the patient had not done any ultrasound following

positive urine pregnancy test. Furthermore she was brought to the emergency room only after rupture had occurred. She was initially diagnosed as ruptured tubal pregnancy and only intra operatively the diagnosis was made and was later confirmed histologically. The case is presented for its rarity and also to emphasize on the recommendation that a pelvic ultrasound must be done as soon as possible after a confirmation or suspicion of pregnancy in women. Early diagnosis of ectopic pregnancy would help in avoiding maternal morbidity and mortality due to rupture and also would be useful in planning a conservative surgical or medical management so that the future fertility would not be compromised.

4. Conclusion

Ovarian ectopic pregnancy is a rare occurrence amongst ectopic gestations but its possibility has to be borne in mind if there is a history of amenorrhea and pregnancy test positivity but absent gestational sac in the uterine cavity. The tubes are normal on inspection and will show no evidence of damage, the ovarian ectopic will mimic an ovarian cyst to the naked eye examination and on sonography but active blood flow surrounding the lesion is seen by Doppler. They can be managed medically with Injection Methotrexate as done for tubal ectopic but should be carefully monitored since if bleeding occurs from ovarian tissue can be severe so as to endanger the life of the woman. Surgical management includes either careful excision of the sac with hemostasis secured with the help of electrocautery or doing an ovariectomy along with the sac structure if bleeding is not being controlled.

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6. Conflict of Interest

None.

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