

Unruptured Interstitial Ectopic Pregnancy: A Case Report

Darartu Fikre Tulu*, Misgana Lulu and Woubshet Girma

Department of Obstetrics and Gynecology, Jimma University, Jimma, Ethiopia

***Corresponding Author:** Darartu Fikre Tulu, Department of Obstetrics and Gynecology, Jimma University, Jimma, Ethiopia.

Received: July 27, 2021; **Published:** August 16, 2021

Abstract

Introduction: Interstitial ectopic pregnancy is a rare type of tubal pregnancy that poses diagnostic challenge. It is associated with the highest risk of massive, uncontrollable bleeding and can result in uterine rupture in the second trimester. This is a rare case of unruptured interstitial ectopic pregnancy diagnosed in the first trimester by ultrasonography and managed surgically.

Case Report: A 18 years old Primigravida unmarried lady, who was amenorrheic for the past two months, presented for termination of pregnancy for which she was provided with mifepristone 200 mg po and misoprostol 800 microgram sublingual 2 weeks back at a local clinic. Currently she came with referral paper from there with the Diagnosis of ??Pelvic mass +? Ectopic pregnancy for better workup and management. She has history of lower abdominal pain and minimal vaginal bleeding but no passage of conceptus tissue. On Physical examination, she is well looking with stable vital sign. She has mild tenderness on suprapubic area more on right side and cervix closed, no adnexal mass, no cervical motion tenderness and culdesac not bulged. Transabdominal Ultrasound Index Unruptured ectopic pregnancy (Interstitial ectopic pregnancy). With final Diagnosis of Unruptured Ectopic Pregnancy (Interstitial ectopic pregnancy) cornual wedge resection done.

Conclusion: Interstitial type is an uncommon type of tubal ectopic pregnancy and delay in diagnosis result in high maternal morbidity and mortality. However, early diagnosis using ultrasonography at early stage of pregnancy prior to rupture and prompt treatment as in this present case can prevent complications like massive hemorrhage and uterine rupture. As in this case she was diagnosed in first trimester pregnancy and managed surgically.

Keywords: *Unruptured Interstitial Ectopic Pregnancy*

Background

Ectopic pregnancy is the implantation of a fertilized ovum outside the uterine cavity and it's thought to affect 1 - 2% of pregnancies. 93 - 97% of ectopic pregnancies are tubal with the interstitial type constituting only 3 - 4%. This shows interstitial ectopic pregnancy is rare [1].

Interstitial pregnancy occurs when implantation occurs in the most proximal section of the tube surrounded by the myometrium. This interstitial portion of the fallopian tube is highly vascular; rupture results in excessive intraperitoneal hemorrhage. Although these pregnancies represent approximately 2 to 4% of all ectopic pregnancies, maternal mortality is high (2% of cases) due to the risk of uterine rupture and subsequent hemorrhagic shock [2].

Risk factors for an interstitial pregnancy are similar to those for any ectopic pregnancy: pelvic inflammatory disease, previous tubal surgery, previous ectopic pregnancy, assisted reproductive technology, and congenital uterine anomalies. Ipsilateral salpingectomy is the only risk factor that exists exclusively for interstitial pregnancy [3].

Ultrasound findings consistent with interstitial gestation include an eccentrically located gestational sac at the superior fundal level of the uterus at least 1 cm from the lateral edge of the uterine cavity surrounded by asymmetrical thin (< 5 mm) myometrial tissue with a distinct and separate empty uterine cavity and the “interstitial line sign”, an echogenic line that extends into the upper regions of the uterine horn and borders the margin of the intramural gestational sac, representing either interstitial portion of the tube or endometrium, which depends on the age and size of the gestation. The interstitial line sign have 80% sensitivity and 98% specificity for the diagnosis of interstitial ectopic pregnancy. An editorial suggested adaptation of two ultrasound findings for diagnosing interstitial ectopic pregnancy: 1) visualization of the interstitial line adjoining the gestational sac and the lateral aspect of the uterine cavity; and 2) the continuation of myometrial mantle around the ectopic sac [4].

Delayed diagnosis of interstitial pregnancy is the main factor contributing to the high maternal mortality rate in comparison to that for tubal ectopic pregnancies; the mortality rate for tubal ectopic pregnancy was reported to be 0.14%, whilst that for interstitial pregnancy was reported to be nearly 15 times higher, at 2% - 2.5% [4].

Conventional treatment for interstitial pregnancies includes systemic methotrexate, cornual wedge resection, or hysterectomy. With the advancement of ultrasound and minimally invasive techniques, other management options now include direct injection of methotrexate into the abnormal pregnancy, combined systemic and direct injection technique and laparoscopic cornual wedge resection [5].

Case Presentation

This 18 years old Primigravida unmarried lady, whose amenorrheic for past 2 months. She presented for termination of pregnancy for which she was provided with mifepristone 200 mg po and misoprostol 800 microgram sublingual 2 weeks back at nearby Clinic. Currently she came with referral paper from there with the DX of “Pelvic mass +? Ectopic pregnancy for better workup and management. She has history of lower abdominal pain and minimal vaginal bleeding but no passage of conceptus tissue.

She has no history of foul-smelling vaginal discharge or treatment for STI. No history of fever, chills or rigors. No history of multiple sexual partners or contraceptive use. No history of known chronic medical or surgical illnesses. The pregnancy is unplanned, unwanted and unsupported.

On Physical examination, she is well looking with stable vital sign. Abdominal examination, flat abdomen moves with respiration, mild tenderness on suprapubic area more on right side. No sign of fluid collection or organomegaly. On Genitourinary system- no Costovertebral angle tenderness. Pervaginal examination - cervix closed, no adnexal mass, no cervical motion tenderness and culdesac not bulged. On transabdominal ultrasound- Partially full bladder; Uterus empty, There is eccentrically located right posterior cornua mass with gestational sac and crown-rump length measuring 9+1 weeks with positive cardiac activity. No free fluid in the peritoneal cavity, paracolic gutters or culdesac. With Index of -Unruptured ectopic pregnancy(? Interstitial ectopic pregnancy). She was prepared for laparotomy with final Diagnosis of Unruptured Ectopic Pregnancy(? Interstitial ectopic pregnancy) and taken to Operation theater.

Written informed consent taken, patient transferred to OR and General anesthesia given, abdomen cleaned with povidone iodine, draped and entered through Pfannenstiel incision.

Intraoperative Findings: Intact uterus, urinary bladder, distended right side tube and serosa of the tube is invaded by placenta. Healthy looking contralateral tube and ovaries. What was done is two Heaney clamps placed over the cornua and incision is angled inward as it is

deepened in a V-shaped manner. Endometrium was bridged. Then Endometrium repaired with vicryl no.2/0, Myometrium repaired using vicryl no1 continuously and subserosa repaired with vicryl no.0 in layer. Hemostasis secured Count correct made. Fascia and skin closed in layer with vicryl no.2 and 3/0 respectively.EBL-300 ml. After the patient is awake from anesthesia she is transferred to recovery with stable vital sign.

The Sample sent for histopathology: On gross pathologic examination one right salpingectomy which is gray brown firm irregular with fallopian tube part (2 x 2 cm). The lumen containing protruding dark brown measuring 4 x 2 cm tissue (conceptus). On Cut section- dark brown solid and friable. On Microscopic examination- conceptus tissue within fallopian tube and myometrium. It composed of chorionic villi with trophoblastic tissue and hemorrhage and area of inflammatory cells mainly small mature lymphocytes. Conclusion: Right fallopian tube (interstitial) ectopic pregnancy.

The patient discharged on her 2nd post op day after cornual wedge resection done. She was counseled to have early ANC follow up and ultrasound for subsequent pregnancy. Advised on next mode of delivery, elective cesarean delivery at 38wks and took implanon.



Figure 1: Transabdominal ultrasound of interstitial ectopic pregnancy with a gestational sac, yolk sac and embryo. The arrow is endometrial slit.

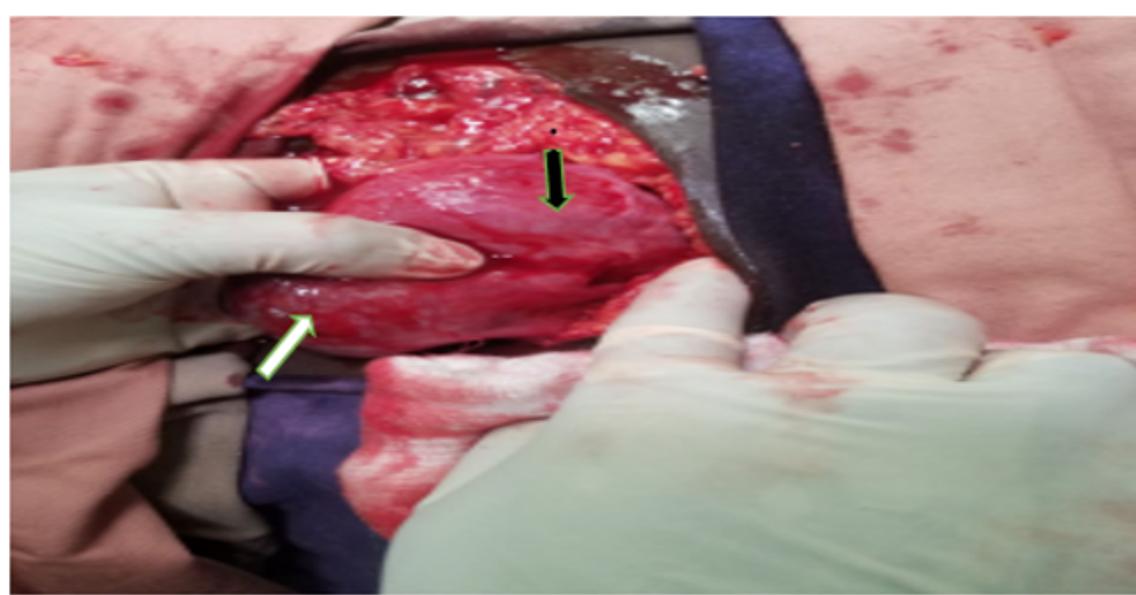


Figure 2: Intraoperative images of The right cornua (white arrow) of the uterus (black arrow) is thin and tensely distended with a gestational sac.

Discussion

Interstitial ectopic pregnancy is a rare and atypical type of tubal ectopic with a high risk of rupture and haemorrhage compared to other types and it is of increase incidence. It is also a significant cause of maternal morbidity and mortality. It occurs within the interstitial portion of the fallopian tube and therefore has the potential to grow to larger sizes compared to other types of tubal pregnancies by the time of presentation [1].

Interstitial pregnancy occurs when implantation occurs in the most proximal section of the tube surrounded by the myometrium. This interstitial portion of the fallopian tube is highly vascular; rupture results in excessive intraperitoneal hemorrhage. Although these pregnancies represent approximately 2 to 4 % of all ectopic pregnancies, maternal mortality is high (2 % of cases) due to the risk of uterine rupture and subsequent hemorrhagic shock (2) The interstitial ectopic pregnancy in this case was an incidental finding.

Previous intrauterine instrumentation, pelvic inflammatory disease, previous tubal surgery, previous ectopic pregnancy, assisted reproductive technology and congenital uterine anomalies are risk factors for interstitial pregnancy as is the case for other types of tubal pregnancies. (3) In this case she has no history above maintained risk factors and the pregnancy was unplanned unwanted and unsupported.

Sonographic criteria for interstitial pregnancy 1. An empty uterine cavity, 2. A chorionic sac identified separately from the lateral edge of the uterine cavity by at least 1 cm, 3. A thin, 5 mm myometrial layer surrounding the chorionic sac, 4. Presence of an “interstitial line sign” or extension of endometrium to the gestational sac edge . (4) In our case transabdominal ultrasound shows empty uterus, There is eccentrically located right posterior mass with gestational sac and crown-rump length measuring 9+1 wks with positive cardiac activity. No free fluid in the peritoneal cavity, paracolic gutters or culdesac.

Medical management with methotrexate has been used as first-line treatment in appropriate cases. A strict inclusion criteria (early gestation, diameter <4 cm, serum beta Human Chorionic Gonadotropin (hCG) of <10,000 IU/l, no evidence of rupture) was suggested and treatment was shown to be success in cases that satisfy these criteria and in women who are able to be monitored for a quite long time after treatment and treated further if required (5)

Treatment options for interstitial ectopic pregnancy include local injection or systemic therapy with methotrexate, local injection of potassium chloride, conservative laparoscopic surgery and uterine artery embolism and in emergency situations, cornuectomy or hysterectomy. Evidence of a hemorrhagic ectopic pregnancy is an indication for laparotomy.(6)

Surgical management of Interstitial ectopic pregnancy remains an important option, as it offers definitive treatment . The cornual resection was preferred in cases of advanced gestational age and/or when ectopic size was > 4 cm in diameter. (7) As in this case, the size is >4cm in diameter she was managed with cornual wedge resection done.

Conclusion

Interstitial type is an uncommon type of tubal ectopic pregnancy and delay in diagnosis result in high maternal morbidity and mortality. However, early diagnosis using ultrasonography at early stage of pregnancy prior to rupture and prompt treatment as in this present case can prevent complications like massive hemorrhage and uterine rupture. As in this case she was diagnosed in first trimester pregnancy and managed surgically.

Bibliography

1. Olayemi Atinuke Alagbe., *et al.* "Interstitial ectopic pregnancy: a case report". *The Pan African Medical Journal* 28 (2017): 135.
2. Natalia M Grindler., *et al.* "Considerations for management of interstitial ectopic pregnancies: two case reports". *Journal of Medical Case Reports* 10 (2016): 106.
3. Tulandi T and Monton L. "Conservative surgical management of interstitial pregnancy". *Fertility and Sterility* 53.3 (1990): 581.
4. Alex R Finlinson., *et al.* "Differentiating pregnancies near the uterotubal junction (angular, cornual, and interstitial): a review and recommendations". *Fertility Research and Practice* 6 (2020): 8.
5. Yassin AS and Taha MS. "Interstitial Ectopic Pregnancy, Diagnosis and Management: A Case Report and Literature Review". *Annals of Clinical Case Reports* 2 (2017): 1352.
6. R Rastogi., *et al.* "Interstitial ectopic pregnancy: A rare and difficult clinicasonographic diagnosis". *Journal of Human Reproductive Sciences* 1.2 (2008): 81-82.
7. Maximilian Brincat., *et al.* "The diagnosis and management of interstitial ectopic pregnancies: a review". *Gynecological Surgery* 16 (2019): 2.

Volume 10 Issue 9 September 2021

©All rights reserved by Darartu Fikre Tulu., *et al.*