

## Interstitial Pregnancy: A Case Report and Review of Literature

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### Abstract

**Background:** Interstitial pregnancy is one of the most dangerous ectopic pregnancies and the diagnosis is challenging even in expert hands. Rupture of interstitial pregnancy can occur from 8-16 weeks of gestation and is associated with life threatening hemorrhage. **Case Presentation:** In this case report, a 36 years old G6P4L4A1 presented to North Eastern Indira Gandhi Regional Institute of Health and Medical Science Shillong with pain abdomen, bleeding per-vaginum following 1 month of amenorrhea. Ultrasonography detected hemoperitoneum and lesion in the pelvic cavity. On laparotomy, left interstitial pregnancy was detected and cornual wedge resection was done. Post-operatively patient was transfused with blood products. **Conclusion:** High index of suspicion for this entity should be kept while performing sonography in a suspected case of ectopic pregnancy. Medical therapy and Minimal Invasive Surgeries should be offered as first line treatment in selected patients to improve future pregnancy outcomes but conventional management still requires in haemodynamically unstable cases.

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### Introduction

Ectopic pregnancy is defined as implantation of zygote outside the uterine cavity. Its worldwide incidence is 1-2% and is the leading cause of death in first trimester of pregnancy [1]. Certain rare types of ectopic pregnancies are Cornual, Interstitial, Angular, Ovarian, Cervical, Caesarean scar pregnancy, Abdominal and visceral pregnancy. Cornual pregnancy refers to the implantation of a blastocyst within the cornua of a bicornuate or septate uterus [2]. In Angular pregnancy, the embryo is implanted in the lateral angle of the uterine cavity, medial to the uterotubal junction and round ligament. Interstitial pregnancy occurs when the gestational sac implants in the myometrial segment of the proximal fallopian tube, implanted lateral to the round ligament and accounts for 3-4% of tubal ectopic pregnancies [2]. The risk factors are similar to other ectopic pregnancy, although previous ipsilateral salpingectomy is a specific risk factor for interstitial pregnancy [4]. Interstitial pregnancy even though rare is associated with pregnancy upto 8-16 weeks ending in catastrophic hemorrhage and maternal mortality upto 2-2.5% [4] which is attributed to dual (Uterine and Ovarian vessels) blood supply in this area. This is a rare case of early ruptured interstitial pregnancy leading to massive hemoperitoneum which was managed at our institute.

### Case Presentation

Thirty six yrs old lady, G6P4L4A1, attended Emergency department of our hospital with bleeding per vaginum since 12 days with no history of passage of clots

or fleshy mass following 1 month of amenorrhoea. Urine pregnancy test was positive. On examination, there was pallor, no edema or cyanosis. She was afebrile, Pulse rate - 110/min, Blood pressure-80/60mmHg, Respiratory rate -22/min. Respiratory system examination was within normal limits. Cardiovascular System examination revealed tachycardia, no abnormal sounds. Abdomen was tender. There was more tenderness in the suprapubic region, bowel sounds were present. On per-vaginal examination, os was closed, Uterus was normal size, cervical motion tenderness was positive and bilateral fornices were tender. Ultrasonography revealed empty endometrial cavity with heteroechoic, ill-defined lesion on the left side of pelvic cavity with hemoperitoneum. All routine investigations were sent urgently. Simultaneous resuscitation and emergency exploratory laparotomy was done. Her laboratory reports were as follows, ABO Rh - A positive, Hemoglobin- 4.3gm%, other investigations were within normal limit.

Intra-operative findings were hemoperitoneum of around 1 liters, blood clot around 1.5liters, Left sided ruptured interstitial ectopic pregnancy was discovered (Fig. 1). Uterus, bilateral ovaries, Right fallopian tube were normal. Since, patient refused tubal ligation, Left sided salpingectomy with cornual wedge resection was done. Two Packed Red Blood cells, 2 Fresh Frozen Plasma, and 2 Platelet concentrate were transfused intra-operatively. Two Packed Red Blood cells, 4 Fresh Frozen Plasma, and 2 Platelet concentrate were transfused in the immediate post-operative period. Patient recovered well and was discharged after 7 days. Histopathological examination revealed fragments of tubal tissue with areas of congestion, inflammation, occasional scattered villi and mostly hemorrhage (Fig. 2).



Fig. 1:

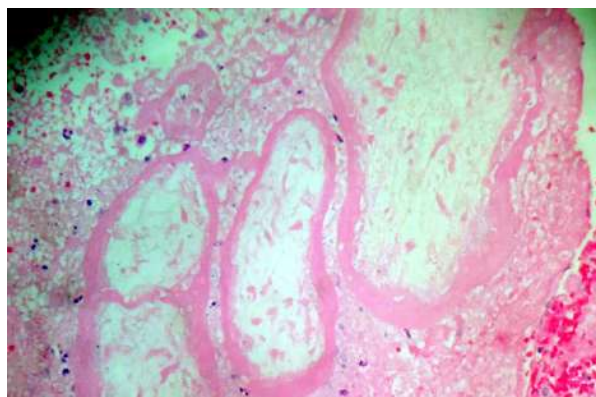


Fig. 2:

## Discussion

Interstitial pregnancy, owing to its unique location, is associated with grave obstetric outcome. Early diagnosis is challenging [4] and is further complicated in coexistence with mullerian anomaly. Diagnostic criteria on sonography include, an empty uterus, the eccentric position of the gestational sac and >1cm away from the most lateral edge of the uterine cavity, and thinning of myometrial mantle <5mm surrounding the sac. The myometrium is expected to be thicker at all sides of the sac in an angular pregnancy; When compared with the surgical/pathological diagnosis, application of these criteria yielded 90% specificity, but only 40% sensitivity [5]. Ackerman et al, 1993, described the "Interstitial line sign", as an echogenic line extending from the gestational sac to the endometrial cavity most likely represents the interstitial of the fallopian tube, sensitivity (80%) and specificity (98%) [6]. In unclear cases, three-dimensional sonography, Magnetic Resonance (MR) imaging, or diagnostic laparoscopy may be done. Management options for Interstitial pregnancy could be medical with the use of methotrexate, (either systemic or local) [7] or local KCL injection or surgical; conservative laparoscopic surgery, uterine artery embolization, cornual resection, cornuostomy or hysterectomy, depending on patient's hemodynamic stability and surgeon's expertise [8]. Management also includes Hysteroscopic removal of the ectopic under laparoscopic guidance [9]. Intra-operatively, blood loss is minimized by intra-myometrial vasopressin injection or hemostatic suturing prior to opening the ectopic. Pregnancies should carefully followed up with  $\beta$ -hCG to exclude remnant trophoblast [10]. The best medical treatment regime for interstitial pregnancy remains unknown. However, a systemic review by Lau S et al., reported that local, systemic, and combined methotrexate

therapy was associated with 83% overall success rate in cases of interstitial pregnancy[4]. The risk of uterine rupture with subsequent pregnancies following either medical or conservative surgical management is unclear. Thus, careful observation of these women during pregnancy and elective cesarean should be considered. Our case had rupture at 1 month of amenorrhea which resulted in massive haemoperitoneum requiring emergency laparotomy and conventional cornual resection.

### Conclusion

Interstitial pregnancy, contrary to the previous belief, can rupture early in pregnancy even prior to diagnosis. Thus, all pregnancies with suspicious  $\beta$ -hCG and progesterone levels should undergo sonography by an expert radiologist and followed up closely. Medical therapy and Minimal invasive surgeries in thermodynamically stable patient should be offered as first line treatment option in resourceful setting but conventional management still requires in haemodynamically unstable cases.

### References

1. Olayemi Atinuke Alagbe, Tinuola Omolade Adeniyi, Olawale Ayobami Abayomi, Emmanuel Olugbenga Onifade. Interstitial ectopic pregnancy: a case report. PAMJ. 2017;28:135.
2. Edward P. Lin, Shweta Bhatt, Vikram S. Dogra. Diagnostic Clues to Ectopic Pregnancy. Radio Graphics 2008;28:1661-71.
3. Ebru Tarim, Serife Ulasan, Esra Kilicdag, Tulin Yildirim, Tayfun Bagis, Esra Kuscu. Angular pregnancy. The Journal of Obs and Gynae Research. 2004.
4. Lau S, Tulandi T. Conservative medical and surgical management of interstitial ectopic pregnancy. Fertil Steril. 1999;72:207-15.
5. Timor-Tritsch IE, Monteagudo A, Matera C, Veit CR. Sonographic evolution of cornual pregnancies treated without surgery. Obstet Gynecol. 1992;79:1044-49.
6. Ackerman TE, Levi CS, Dashefsky SM. interstitial line: Sonographic finding in interstitial (cornual) ectopic pregnancy. Radiology. 1993;189(1):83-87.
7. Jean-Louis Benifla, Hervé Fernandez, Eric Sebban, Emile Darai. Alternative to surgery of treatment of unruptured interstitial pregnancy: 15 cases of medical treatment. European journal of obstetrics gynecology and reproductive biology. 1996;70(2):151-56.
8. Dubin AK, Zaritsky EF, Yamamoto MP. Laparoscopic management of a 13 week interstitial ectopic pregnancy. CRSLs. 2014;e2014:00226.
9. Lin K, Xu K, Wu R, et al. A new fertility-preserving surgery for interstitial pregnancy involving hysteroscopic removal under laparoscopic guidance. Int J Gynaecol Obstet. 2014;124(3):256-7.
10. Cunningham FG, Leveno KJ, Bloom SL, Hauth JC, Rouse DJ, Spong CY. Williams Obstetrics. 22nd ed. New York: McGraw Hill Professional; 2009.p.388.