

# Interstitial Pregnancy: Conservative Surgical Approach As Management

Dr Kadeeja Thasneem T, Dr Ankita Borkar  
Goa Medical College, Bambolim, Goa

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## I. Introduction

Ectopic pregnancy refers to implantation of gestational sac outside the endometrial tissue. Incidence is around 6.9/1000 pregnancies. The majority of Ectopic pregnancies (97%) occur within the fallopian tube, most commonly in the ampullary region.

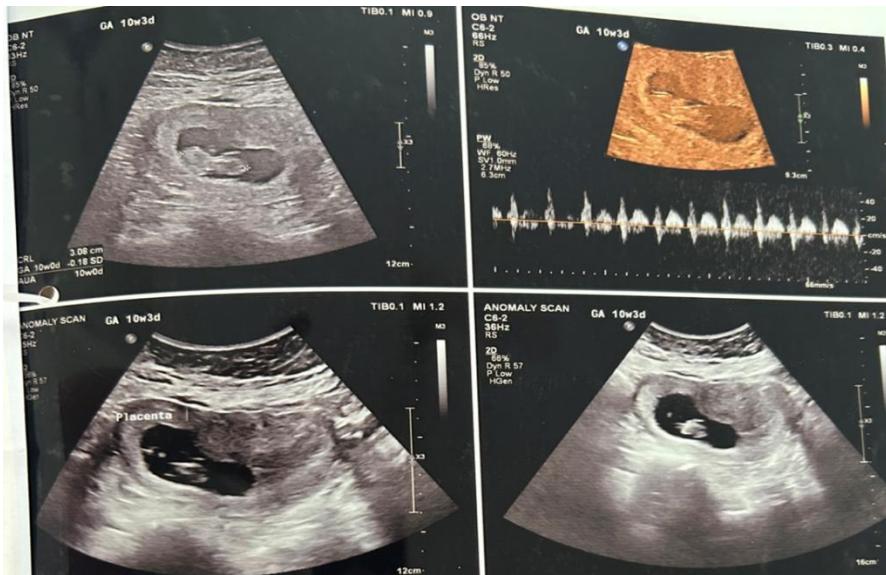
Interstitial pregnancy is a rare kind of ectopic pregnancy that accounting for 2.4-3% of all tubal pregnancies and is characterized by implantation within the intramural portion of fallopian tube. Although Interstitial pregnancies constitute a small fraction of ectopic gestation, they contribute disproportionately to maternal morbidity and mortality with a 2.5% mortality rate. The appropriate surgical approach should be tailored to the individual patient presentation and surgeon's expertise.

## II. Case Report

A 37- year-old female was admitted in our facility as

- G3P0A1 presented with amenorrhoea since two and a half months with intermittent cramping abdominal pain.
- Urine pregnancy test was positive.
- Her cycles were regular with LMP: 07-04-2025, with gestational age -10.6 weeks
- On examination, she was haemodynamically stable. With a PR :86 /min and BP :120/70 mmHg, No pallor, No icterus, No pedal oedema.
- Per abdomen examination- Soft, Non-tender, No guarding/ rigidity.
- Per speculum examination-Cervix and vagina healthy.
- Per Vaginal examination revealed bulky uterus without fornacial mass or tenderness. Cervix long, os closed.
- Beta Hcg-10530 mIU/ml
- Patient had one USG report (done in private around 7 weeks of amenorrhea, showing IUGS with live foetus of – 7.5 weeks)
- Transvaginal Ultrasound demonstrated an eccentrically located 10.5 weeks gestational sac along right lateral uterine wall with an overlying myometrial thickness of 4.5 mm, consistent with right cornual ectopic pregnancy.





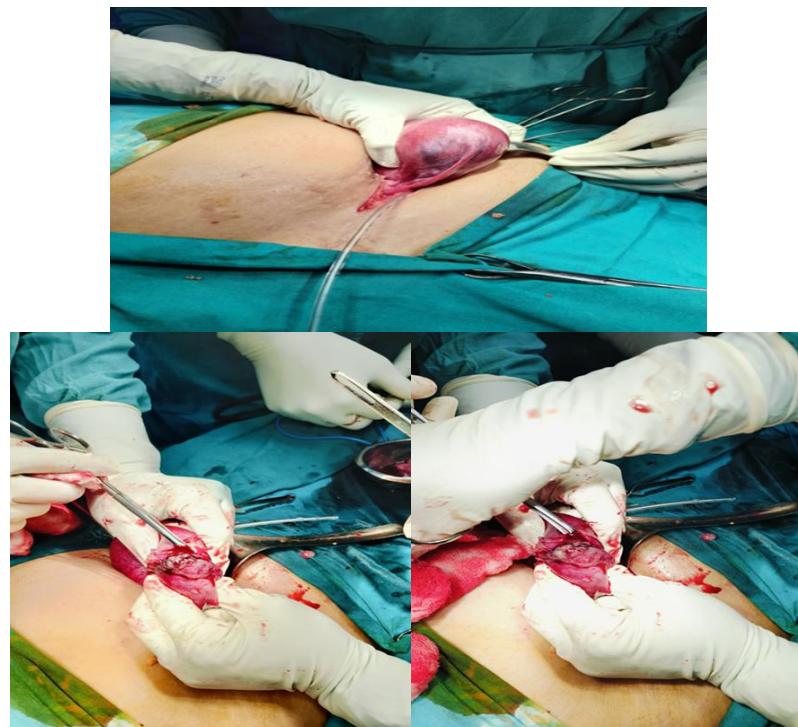
**Fig I:** An eccentrically located gestational sac with CRL-10.5 weeks, with overlying myometrial thickness of only 4.5 mm

Patient counselled for conservative management.

Patient underwent right cornuostomy followed by cornual reconstruction followed by peritoneal lavage under Spinal anaesthesia.

**Intra operative finding:** A 3x4 cm gestational sac noted along the right cornu of the uterus, overlying myometrium thinned out.

- Incision given over the cornu and products of conception evacuated.
- A diluted solution of adrenaline injected onto the base of myometrium at the site.
- Occlusion of Bilateral uterine vessels using a tourniquet employed to minimize blood loss.
- Repair of incision done with Vicryl no.1. Products sent for Histopathology. Intra operative Blood loss – 400 cc.
- Post operative course uneventful.



**Fig II:** Intraoperative image of right cornual pregnancy.

### III. Discussion

An interstitial pregnancy is an ectopic pregnancy in which the gestational sac implants in the interstitial (intramural) portion of the fallopian tube that traverses the uterine musculature. Although interstitial pregnancies account for only 2–3% of tubal ectopic pregnancies, they carry a high risk of severe haemorrhage and maternal mortality due to delayed diagnosis and rich cornual vascularity. Owing to the surrounding myometrium in the cornual region diagnosis may be delayed until even 12 weeks or later. Given the rich vascularity of cornua, rupture can be catastrophic. Diagnosis is often delayed and challenging. Typically, an ectopic pregnancy presents as a classic triad of pain, bleeding and adnexal mass on examination. A patient with early gestation presenting with pain/bleeding/without a prior confirmatory USG showing IUGS should raise alarm. However, the problem with interstitial pregnancy lies in the vague presenting of symptoms. Patients may present with vague to acute abdominal pain, Intra peritoneal haemorrhage with a positive UPT. The growing chorionic villi may erode into the blood vessels of uterine cornu. Transvaginal ultrasonography is the primary diagnostic tool. Ultrasonographic diagnosis were first described by Timor-Tritsch and colleague. These include (1) Empty uterine cavity (2) A Gestational sac located eccentrically,  $\geq 1$  cm from the most lateral edge of the uterine cavity. (3) Thin myometrial mantle ( $< 5$  mm) surrounding the chorionic sac. (4) “Interstitial Line Sign”- an echogenic line extending from the endometrial cavity to the gestational sac. It is essential to differentiate interstitial pregnancy from: Angular pregnancy, Pregnancy in a rudimentary uterine horn, degenerating uterine myoma as management and prognosis differ substantially.

Management depends on gestational age, hemodynamic stability, and fertility desires.

#### Medical management

- Systemic or local methotrexate in stable, early cases
- Requires strict follow-up with serial  $\beta$ -hCG levels

#### Surgical management

Indicated in hemodynamically unstable patients or failed medical therapy

- Cornuostomy
- Cornual resection
- Hysterectomy (rare, life-saving situations)

Can be performed via laparoscopy or laparotomy, depending on clinical status and surgical expertise.

A timely and clinically accurate diagnosis, coupled with swift intervention is crucial in preventing complications.

### IV. Conclusion

This case highlights the feasibility, safety, and effectiveness of conservative surgical management in the treatment of interstitial ectopic pregnancy, particularly in women with a desire for future fertility preservation. Early recognition of the condition and timely surgical intervention based on sound clinical judgment are critical, as interstitial pregnancies are associated with delayed presentation and a high risk of catastrophic haemorrhage due to the rich vascularity of the uterine cornua.

The successful outcome in this case demonstrates that uterine-sparing surgical techniques, such as cornuostomy can be safely performed without compromising maternal outcomes when the patient is hemodynamically stable and managed by an experienced surgical team. The incorporation of adjunctive measures to minimize intraoperative blood loss, including the use of vasopressin infiltration, tourniquet application, uterine artery control, meticulous electrosurgical haemostasis, and layered myometrial closure, plays a crucial role in ensuring operative safety. Effective blood loss control not only facilitates a smooth intraoperative course but also contributes to reduced transfusion requirements, shorter operative time, and enhanced postoperative recovery. Overall, this case reinforces that with prompt decision-making, individualized surgical planning, and appropriate haemostatic techniques, conservative surgical management of cornual ectopic pregnancy is a viable option that achieves optimal maternal outcomes while maintaining reproductive potential.

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