

A case of ruptured interstitial ectopic pregnancy and its management

Introduction

- Interstitial ectopic pregnancies are rare and occur when pregnancy implants in the interstitial portion of fallopian tube.
- They account for 1-6.3% of ectopic cases, and they have a significantly higher mortality rate compared to other types of ectopic pregnancy. They are difficult to diagnose clinically and sonographically.
- Hereby, we present a case of ruptured Interstitial ectopic pregnancy, focusing on early diagnosis and emergency management.

Case summary

- 26 year-old female
- G7P1+5 (1 normal vaginal delivery, 5 terminations of pregnancy)
- Acute presentation to the Emergency Department at ~7/40 gestation, following attempted medical termination of pregnancy with misoprostol 2 days prior
- **Symptoms:**
 - Severe right iliac fossa pain
 - Shoulder tip pain
 - Vaginal bleeding
- **On examination:**
 - Generalised abdominal tenderness
 - No guarding/peritonism
- **Observations:**
 - BP 92/62 mmHg
 - HR 117bpm
 - National Early Warning Score (NEWS) 4
- **Blood test results:**
 - Lactate 1.9 mmol/L
 - hCG 7057 mIU/mL
 - Hb 96 g/L (previously 132 g/L in May 2024)
- **Transvaginal ultrasound report:**
 - Anteverted uterus, in the right adnexa a live ectopic is seen measuring 24x21x22mm with yolk sac, fetal pole with FH, CRL 3.5mm.
 - No intrauterine pregnancy
 - Moderate amount of free fluid seen in right adnexa and in pouch of Douglas with internal echogenic material, likely blood.

Surgical management

Findings at laparoscopy:

- Hemoperitoneum with clots in the pelvis – 600ml.
- Blood leaking from the ectopic pregnancy in the right cornual end of uterus.
- Normal tubes and ovaries bilaterally.

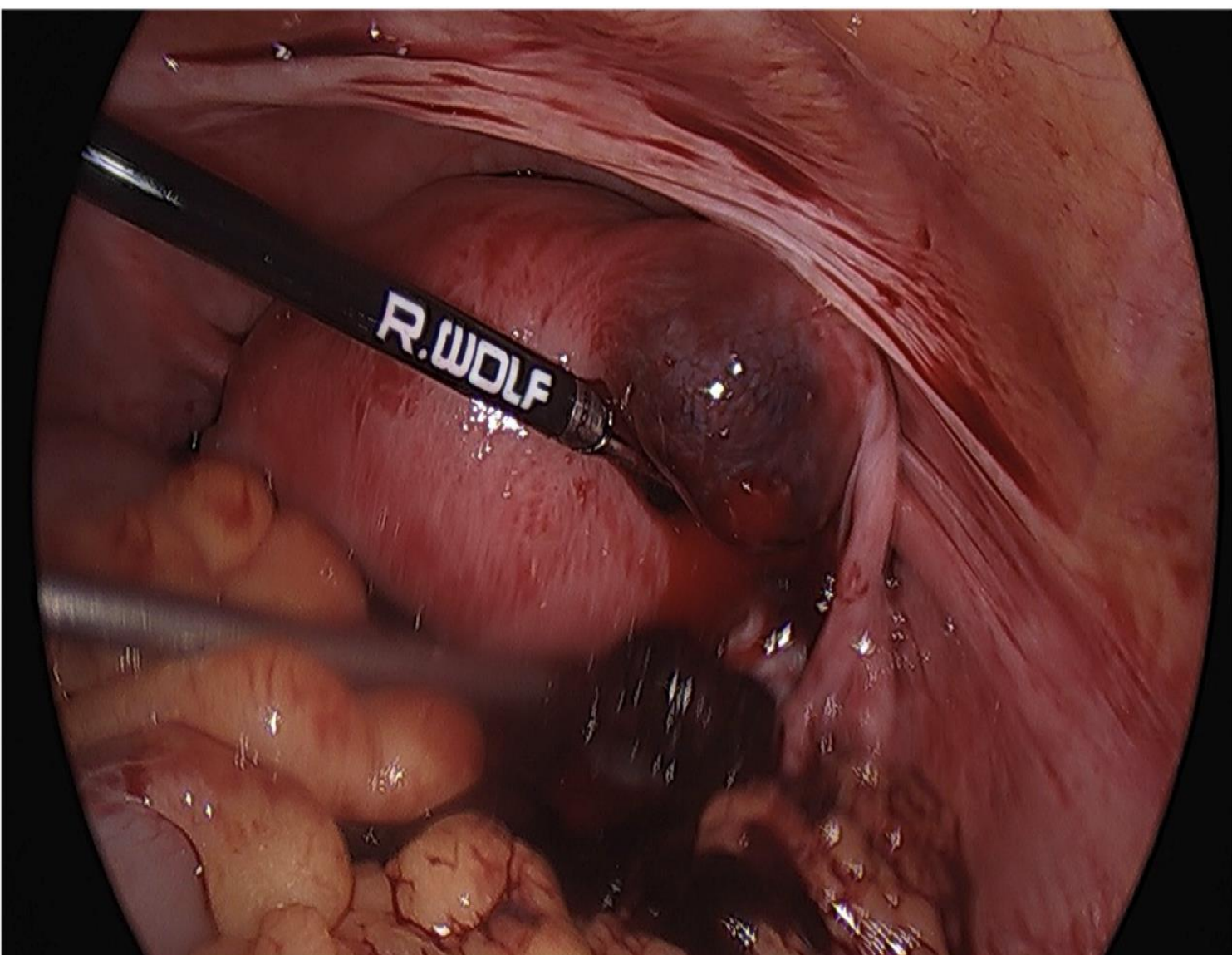


Figure 1. Right –sided interstitial ectopic visible.

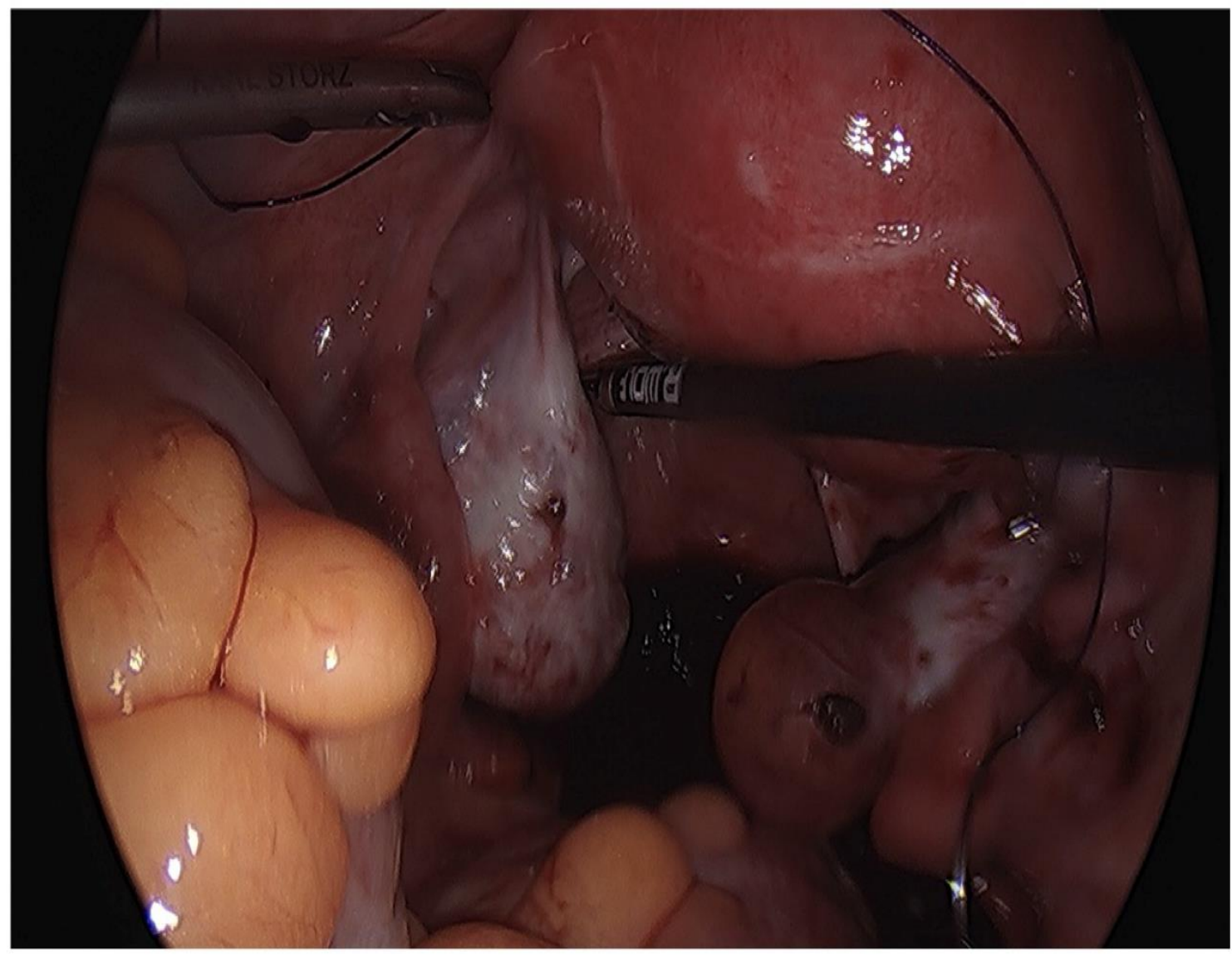


Figure 2. Normal fallopian tubes and ovaries, visible haemoperitoneum in pouch of Douglas.

Procedure:

- Octopressin (5IU diluted in 250ml of normal saline) injected around the ectopic and at the site of incision
- Incised with monopolar hook
- Evacuated the trophoblastic tissue
- Suction/irrigation performed
- Closed using monofilament barbed suture (Stratafix)
- Total estimated blood loss 600ml.

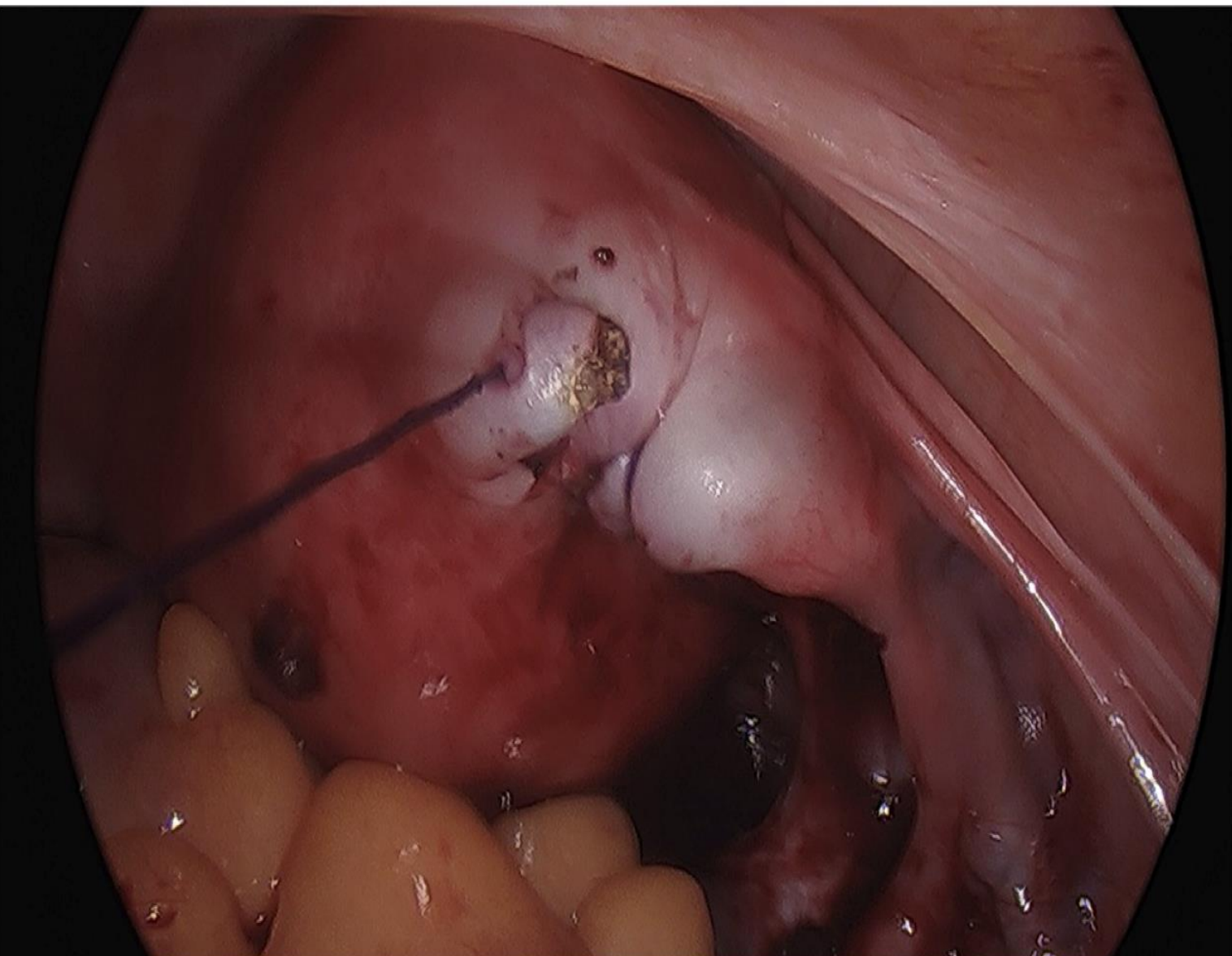


Figure 3. Barbed suture used to close incision site.

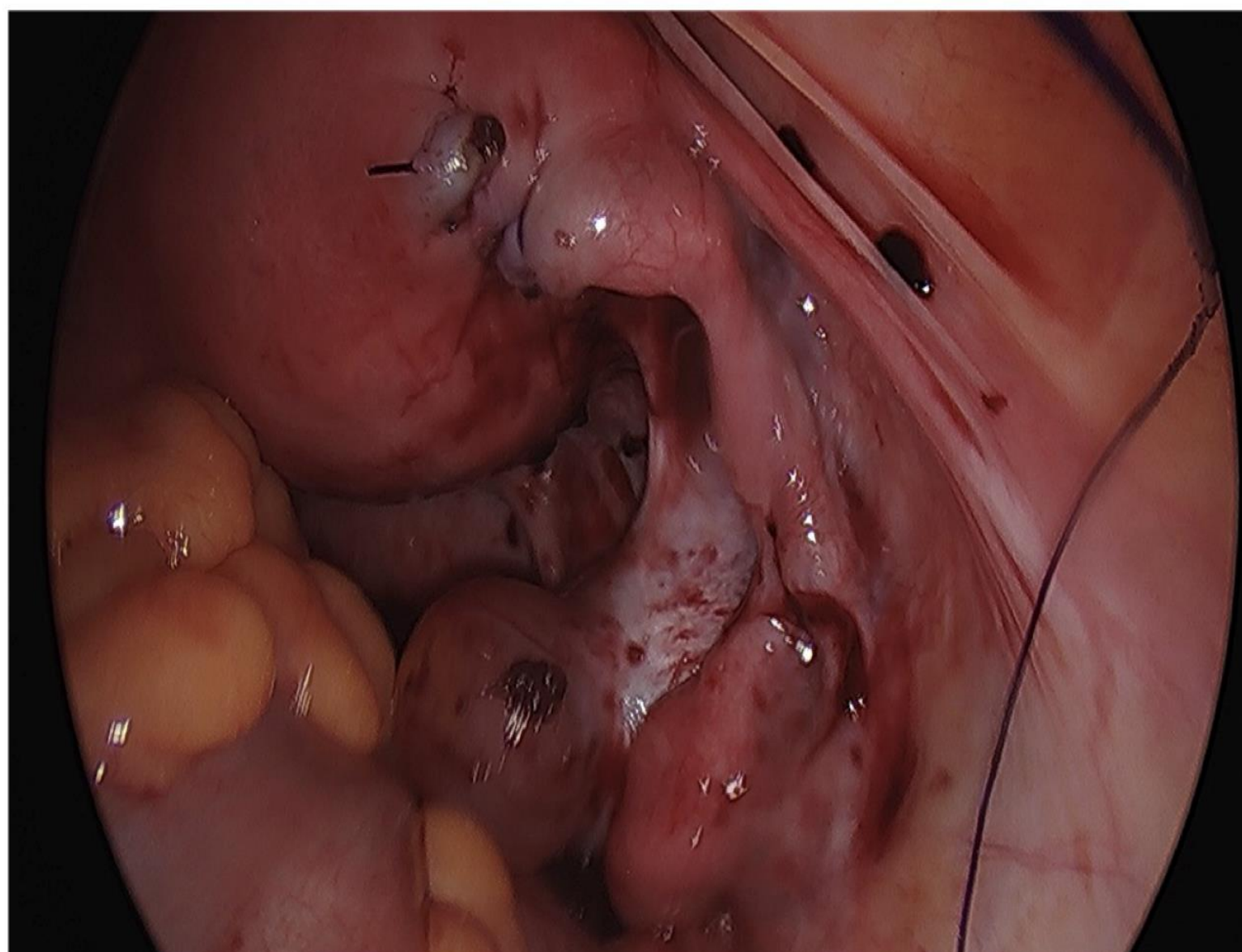


Figure 4. Closed ectopic incision site. Fallopian tube preserved.

Discussion

- Interstitial ectopic pregnancy can sometimes be difficult to differentiate from cornual ectopic pregnancy
- Definitive management varies depending on the type of ectopic

1. Cornual ectopic: implantation in a congenitally abnormal uterus (e.g. a rudimentary horn of a unicornuate uterus)

- **Sonographic criteria:**
 - empty uterine cavity
 - gestational sac located eccentrically
 - thin myometrial layer (<5 mm) surrounding the gestational sac
 - potential to rupture due to the lack of myometrial support around the gestational sac
- **Management:** best approach is excision of rudimentary horn, to avoid recurrence.

2. Interstitial ectopic: Implantation in the interstitial part of the fallopian tube (this is about 1–2 cm in length and traverses the muscular myometrium of the uterine wall, opening via the tubal ostium into the uterine cavity)

- **Sonographic criteria:**
 - empty uterine cavity.
 - gestational sac located laterally in the interstitial (intramural) part of the tube and surrounded by <5 mm of myometrium in all imaging planes.
 - 'interstitial line sign' - thin echogenic line extending from the central uterine cavity echo to the periphery of the interstitial sac
- **Management:** various approaches such as:
 - hysteroscopic resection under laparoscopic or ultrasound guidance
 - ultrasound guided aspiration of excoelomic fluid from gestational sac followed by intrasaccular injection of methotrexate +/- potassium chloride (embryocide)
 - electrocauterisation, endoloop application or encircling suture before evacuation of the conceptus
 - using highly diluted vasopressin for haemostasis during laparoscopy, injected in the uterus below the interstitial pregnancy

- Differentiating between the 2 types of ectopic pregnancy is challenging and often the best approach will be guided by findings during surgery. Sonographically, care should be taken to avoid mistaking such an ectopic for an angular intrauterine pregnancy. MRI or 3D ultrasound could assist accurate diagnosis.

References

1. RCOG. Diagnosis and Management of Ectopic Pregnancy Green-top Guideline No. 21
2. Minas V., Shaw E, Aust, T. Laparoscopic management of an 11-week rudimentary uterine horn pregnancy using extracorporeal Roeder knot to secure the dilated vascular pedicle. *Gynecol Surg*11, 159–164 (2014).
3. Listijono DR, Rosen DMB, Choi S, Bukhari M, Cario GM, Chou D. Cultivating the Apprentice-Mentor Model for Minimally Invasive Gynaecology in the Era of Surgically Scarce Training: A Case Report of Laparoscopic Cornuostomy for Interstitial Ectopic Pregnancy by a Trainee. *Case Rep Obstet Gynecol.* (2021)