CESAREAN SCAR PREGNANCY

EARLY DIAGNOSIS, TIMELY INTERVENTION & FERTILITY PRESERVATION

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CASE REPORT

1. CASE DETAILS

- **Age:** 40 years
- **Gravida/Para:** G3P2A1L2
- **Chief Complaint:** Heavy menstrual bleeding since 20 days
- **UPT:** Positive
- **M/H:** LMP – bleeding since 20 days, before that 2.5 months of amenorrhea

Patient had taken MTP kit on her own 1.5 months back

OBSTETRIC HISTORY

- 2 FTCS / MCH / 18 years / Live / Ind: Breech
- FCH / 15 years / Live / Ind: Prev CS
- 1 induced abortion @ 2 moa / 12 years back / f/d D & E

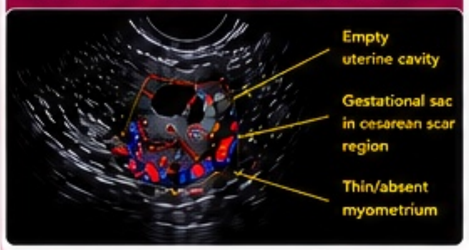
CLINICAL EXAMINATION

- **Per Abdomen:** Soft, TSCS + tenderness at previous cesarean scar +
- **Per Speculum:** Cervix NAD, bleeding ++
- **Per Vaginal:** Uterus anteverted, 8 week size, bilateral fornices clear, bleeding ++. Cervix mobile, non tender, Os 1 finger dilated

2. INVESTIGATIONS

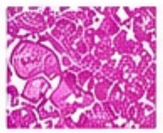
CBC	Blood Group	β-hCG	Other Reports
4 / 13.8 / 112	B Positive	1788 mIU/mL	Normal

3. TRANSVAGINAL ULTRASOUND FINDINGS



- Uterine cavity empty.
- 48 × 55 × 64 mm sized mixed echogenic lesion with vascularity noted at the level of previous cesarean scar.
- Myometrium between retained product and urinary bladder is thin.
- Bilateral adnexa clear.
- No free fluid in pouch of Douglas.

4. HISTOPATHOLOGY



Chorionic villi with decidual tissue confirming products of conception.

5. INTRAOPERATIVE FINDINGS



Bulge of placental tissue on scar | Communication with uterine cavity | After removal of tissue and curettage

3 unit PCV, 4 unit PRC and 4 unit FFP transfused during surgery.

6. MANAGEMENT OF THIS CASE

- Emergency suction & evacuation converted into Emergency Laparotomy.
- Under USG guidance, suction & evacuation of uterus done.
- Bleeding continued and previous scar appeared extremely thinned out with impending rupture.
- Placental tissue bulge was present on the anterior surface of uterus over previous cesarean scar. It was communicating with the uterine cavity.
- All tissue gently removed. Gentle uterine curettage was done.
- All products of conception were extracted and sent for histopathological examination and diagnosis of CSP confirmed.

3 unit PCV, 4 unit PRC and 4 unit FFP transfused during surgery.

GENERAL INFORMATION ON CESAREAN SCAR PREGNANCY

1. INTRODUCTION

- Cesarean scar pregnancy (CSP) is implantation of gestational sac in the myometrium at the site of a previous cesarean section scar.
- Rare but serious form of ectopic pregnancy with risk of massive hemorrhage, uterine rupture and placenta accreta spectrum disorders.
- Incidence: 1 in 1,800 – 2,500 pregnancies.
- Early diagnosis is essential for fertility preservation and prevention of catastrophic complications.



2. CLASSIFICATION

ENDOGENIC

Sac implanted on scar but grows towards uterine cavity.



EXOGENIC

Sac deeply embedded and grows outwards towards bladder.



CLINICAL FEATURES

- **Most common:** Asymptomatic
- **Others:** Pain and bleeding during early pregnancy

3. DIAGNOSTIC CRITERIA

- Empty uterus
- Empty cervical canal
- Development of sac in anterior part of isthmic portion
- Absence of healthy myometrium between bladder and gestational sac
- Increased peritrophoblastic vascularity



4. RISK FACTORS

- Previous cesarean scar (especially upper uterine incision or poorly healed scar)
- Previous uterine surgery
- Previous curettage
- Myomectomy

5. PATHOGENESIS / THEORIES

- Blastocyst invades into the myometrium through a microscopic dehiscent tract due to previous uterine surgery (cesarean section, manual removal of placenta, etc.).
- Trauma to endometrium and myometrium due to prior surgery.
- Microscopic tracts between uterine cavity and niche.
- Altered decidualization at the scar site.



MANAGEMENT OF CESAREAN SCAR PREGNANCY – GENERAL OPTIONS

A. MEDICAL MANAGEMENT

Suitable in:

- Hemodynamically stable patients
- Early gestation (<8–9 weeks)
- β-hCG < 5000–10,000 mIU/mL
- No fetal cardiac acitvity
- Desire to preserve fertility

1. SYSTEMIC METHOTREXATE (MTX)

- Single dose: 50 mg/m² IM
- Multi-dose regimen: 1 mg/kg on days 1,3,5,7 with folinic acid 15 mg 24 hrs after MTX
- Monitor β-hCG weekly till negative

2. LOCAL MTX INJECTION

- Under USG guidance, MTX injected directly into gestational sac
- Dose: 1–2 mg/kg (commonly 50 mg)
- High success with less systemic side effects

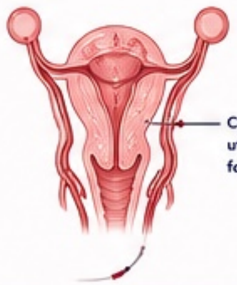
3. OTHER ADJUVANT MEDICATIONS

- KCl injection (fetal cardiac arrest)
- Hyperosmolar glucose
- Vasopressin
- Mifepristone / Progesterone blockers

Success rate: 60–90% with careful selection and close follow up.

B. UTERINE ARTERY EMBOLIZATION (UAE)

- Indicated in:
  - Vascular CSP
  - Large gestational sac
  - High β-hCG levels
  - Adjunct to surgery
- Reduces blood flow to the lesion, controls bleeding and facilitates subsequent treatment.
- Can be used alone in selected cases.



C. SURGICAL MANAGEMENT

1. DILATATION & EVACUATION (D&E)

- With or without ultrasound guidance
- Suitable for early, small CSP

2. HYSTEROSCOPIC RESECTION

- For endogenic type CSP
- Under hysteroscopic visualization

3. LAPAROSCOPIC EXCISION

- Wedge resection of scar pregnancy
- Reconstruction of uterine defect

4. LAPAROTOMY

- For large CSP, heavy bleeding, or failed conservative methods
- Excision of scar pregnancy with repair of uterine defect

5. HYSTERECTOMY

- Life-saving in uncontrollable bleeding
- No future fertility desired

Surgical approach depends on gestational age, size, hemodynamic status, fertility wish and surgeon expertise.

D. CONCOMITANT / SUPPORTIVE MEASURES

- Blood group & crossmatch, arrange blood and blood products.
- Hemodynamic stabilization.
- Transvaginal sonography guidance during intervention.
- Serial β-hCG monitoring.
- Antibiotic prophylaxis.
- Iron supplementation.
- Counsel regarding future pregnancy and mode of delivery.

FOLLOW UP

- Monitor β-hCG weekly till negative.
- USG after 2–4 weeks to confirm resolution.
- Advise contraception for at least 3–6 months.
- Early booking and scar assessment in next pregnancy.

COMPLICATIONS

- Uterine rupture
- Massive hemorrhage
- Placenta accreta spectrum
- Maternal morbidity and mortality

CONCLUSION

- Early and accurate diagnosis of CSP is crucial to avoid complications and preserve fertility.
- It leads to better outcomes and fewer complications.
- Undiagnosed or missed cases increase risk of maternal morbidity and mortality.
- Complications: uterine rupture, massive hemorrhage, placenta accreta spectrum, maternal death.
- Early diagnosis via ultrasonography helps in decreasing the risk of serious complications.

KEY TAKE HOME MESSAGES

High index of suspicion in women with previous cesarean scar and early pregnancy bleeding.	Transvaginal ultrasonography is the gold standard for diagnosis.	Timely intervention (preferably in early gestation) prevents life-threatening complications.	Conservative management options can help preserve fertility in selected cases.	Multidisciplinary approach and blood product preparedness are essential.

Early Diagnosis Saves Lives... Timely Intervention Preserves Fertility...