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Case Report

Caesarean scar ectopic pregnancy: a rare case managed by laparoscopy-guided suction evacuation

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ABSTRACT

Caesarean scar ectopic pregnancy (CSEP) is a rare and potentially life-threatening form of ectopic pregnancy in which implantation occurs at the site of a previous caesarean section scar. Early diagnosis is essential to prevent serious complications such as uterine rupture and massive haemorrhage. We report the case of a 32-year-old multiparous woman with a history of one previous caesarean section who presented with amenorrhoea and abnormal vaginal bleeding following unsupervised intake of medical termination pills. Transvaginal ultrasonography revealed a gestational sac implanted at the caesarean scar site, which was further confirmed by magnetic resonance imaging. The patient was managed successfully with laparoscopy-guided suction evacuation, and the postoperative course was uneventful. This case highlights the importance of early imaging-based diagnosis and individualised management to achieve favourable outcomes while preserving future fertility.

Keywords: Caesarean scar pregnancy, Ectopic pregnancy, Previous caesarean section, Transvaginal ultrasonography, Magnetic resonance imaging, Laparoscopic management

INTRODUCTION

Caesarean scar ectopic pregnancy (CSEP) is a rare and potentially life-threatening form of ectopic pregnancy.¹ It occurs when the gestational sac implants into the fibrous tissue and myometrium at the site of a previous caesarean section scar.¹ Although ectopic pregnancies most commonly occur in the fallopian tubes, implantation at a caesarean scar account for less than 1% of all ectopic pregnancies. However, its incidence is increasing due to the rising rate of caesarean deliveries worldwide and improved diagnostic imaging techniques.²

The reported incidence of CSEP is approximately 1 in 2000 pregnancies, but this may be underestimated due to misdiagnosis or delayed detection. Early diagnosis is crucial, as delayed recognition can result in serious complications such as massive haemorrhage, uterine rupture, need for hysterectomy, and even maternal

mortality. Transvaginal ultrasonography is the primary diagnostic modality and allows early identification in most cases. Magnetic resonance imaging (MRI) plays an important role when ultrasound findings are inconclusive or when detailed preoperative assessment is required.³ Management of CSEP remains challenging, with no universally accepted treatment protocol. Treatment options depend on gestational age, haemodynamic stability, extent of myometrial invasion, and the patient's desire for future fertility.⁴ Early diagnosis allows timely intervention and improves maternal outcomes while preserving reproductive potential. This report describes a rare case of caesarean scar ectopic pregnancy diagnosed using imaging and managed surgically.

CASE REPORT

A 32-year-old woman, gravida 3 para 1 living 1 with one previous abortion (G3P1011), presented to the emergency

department of Dr. Rajendra Prasad Government Medical College and Hospital, Tanda, with complaints of amenorrhoea for three months and bleeding per vagina for the past 7–10 days. The bleeding was described as heavy and irregular, associated with lower abdominal pain of cramping nature. There was no history of syncope or passage of tissue. She gave a history of unsupervised intake of medical termination of pregnancy pills (misoprostol) approximately 12–13 days prior to presentation.

Her obstetric history was significant for one previous lower segment caesarean section performed around four years earlier and one first-trimester incomplete abortion managed by suction evacuation. There was no history of other uterine surgeries. She had no known medical illnesses such as hypertension, diabetes mellitus, or thyroid disorders. There was no significant family history. She did not have any addictions and belonged to a rural background.

On general physical examination, the patient was conscious, oriented, and haemodynamically stable. Her pulse rate and blood pressure were within normal limits. Abdominal examination revealed mild lower abdominal tenderness without guarding or rigidity. On per speculum examination, the cervix appeared healthy, the cervical os was closed, and bleeding was noted through the os. On bimanual examination, the uterus was bulky and retroverted, the cervix was directed downward and forward, and bilateral fornices were free and non-tender. Initial investigations revealed a positive urine pregnancy test. Quantitative serum beta-human chorionic gonadotropin (β -hCG) level was 75.6 mIU/mL. Routine blood investigations, including complete blood count, renal function tests, and liver function tests, were within normal limits.

A transvaginal ultrasound examination revealed an empty uterine cavity with a gestational sac implanted in the lower uterine segment at the site of the previous caesarean section scar. There was marked thinning of the surrounding myometrium at the implantation site, raising suspicion of a caesarean scar ectopic pregnancy. In view of these findings, further imaging was planned for better anatomical delineation. Magnetic resonance imaging (MRI) of the pelvis was performed. The uterus measured approximately 6.8×4.4 cm. There was gross thinning of the anterior-inferior myometrium, measuring about 2 mm, with an outpouching of the endometrium into the myometrium, consistent with a caesarean scar niche. T2-weighted images showed hyperintense contents measuring approximately $1.5 \times 2 \times 1.6$ cm within the endometrial cavity, extending from the thinned myometrium at the scar site towards the cervical canal, suggestive of products of conception. There was minimal intervening myometrium between the uterine contents and the urinary bladder. Both ovaries appeared normal, and no free fluid was noted in the pelvis. Based on clinical and radiological findings, a diagnosis of caesarean scar ectopic pregnancy was made.



Figure 1: Ultrasound Image-Caesarean scar pregnancy.



Figure 2: Midline sagittal T2 weighted magnetic resonance image through the pelvis. Gestational sac (blue arrow) within the myometrium of the lower uterine segment. Anterior to the gestational sac, the myometrium is thinned (yellow arrow). Normal urinary bladder (UB) (red arrow).

After counselling the patient regarding the diagnosis, risks, and available management options, and considering her haemodynamic stability and desire for uterine preservation, surgical management was planned. Laparoscopy-guided suction evacuation was chosen. Diagnostic laparoscopy revealed dense adhesions between the urinary bladder and the lower uterine segment. The bladder peritoneum was carefully incised, and the bladder was pushed downward to expose the lower uterine segment and upper cervical region. A bluish bulging mass was seen over the anterior lower uterine segment, corresponding to the caesarean scar site. The mass consisted of gestational tissue, blood clots, and scar tissue, covered by a thin layer of myometrium. Under laparoscopic guidance, uterine suction evacuation was performed, and the gestational tissue was removed successfully with minimal blood loss. The specimen was

sent for histopathological examination, which confirmed products of conception, thereby supporting the diagnosis of caesarean scar ectopic pregnancy. Haemostasis was achieved, and the procedure was completed without complications.



Figure 3: A bulging mass over the serosal surface of the lower uterus (arrow) under laparoscopy. A bluish mass made up of gestational tissue, blood clots, fibrin, and myometrial scar, covered by a thin wall of myometrium, when the bladder peritoneum was incised.

Postoperatively, the patient was monitored in the intensive care unit for one week. Her postoperative course was uneventful. Serial serum β -hCG levels were followed until they returned to non-pregnant levels. She was discharged on postoperative day 12 in stable condition with advice for follow-up and counselling regarding future pregnancies and early antenatal evaluation.

DISCUSSION

Caesarean scar ectopic pregnancy is a rare but increasingly recognised form of ectopic pregnancy, mainly due to the rising rate of caesarean deliveries and improved imaging techniques.⁴ The condition is associated with serious maternal morbidity, as implantation occurs in a poorly vascularised and weakened myometrial area, predisposing to early uterine rupture and massive haemorrhage.⁴ A previous caesarean section is the most important risk factor, although other uterine procedures such as curettage and myomectomy may also contribute to defective scar healing.⁴ Early diagnosis is essential for favourable outcomes. Transvaginal ultrasonography with colour Doppler remains the first-line diagnostic tool and allows early identification in most cases.⁵ Magnetic resonance imaging is valuable when ultrasound findings are equivocal or when detailed assessment of myometrial thickness and bladder involvement is required, as in the present case.⁵ Accurate imaging helps in selecting the most

appropriate management strategy and reducing intraoperative complications. There is no standardised treatment protocol for caesarean scar ectopic pregnancy. Management depends on gestational age, clinical stability, extent of scar invasion, and fertility wish.⁴ Options include medical treatment, surgical evacuation, excision of the scar pregnancy, or hysterectomy in unstable cases. In this patient, laparoscopy-guided suction evacuation allowed effective removal of gestational tissue while preserving the uterus. This case highlights the importance of early diagnosis, multidisciplinary management, and individualised treatment planning to minimise complications and preserve future fertility.

CONCLUSION

Caesarean scar ectopic pregnancy is a rare but potentially life-threatening condition that requires a high index of clinical suspicion, especially in women with a history of caesarean section presenting with early pregnancy bleeding. Early and accurate diagnosis using transvaginal ultrasonography, supported by magnetic resonance imaging when needed, is crucial to prevent severe complications such as uterine rupture and massive haemorrhage. Management should be individualised based on clinical stability and reproductive wishes. Timely surgical intervention in this case resulted in a favourable outcome with preservation of uterine integrity and future fertility.

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