Case Report
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Caesarean scar ectopic, initially managed as missed miscarriage

Abstract

Background: Caesarean-scar pregnancy is a rare form of ectopic pregnancy in which implantation occurs within the myometrial defect of a previous caesarean section scar. Its incidence has increased with rising caesarean delivery rates and improved early pregnancy imaging. Delayed diagnosis may result in severe maternal morbidity, including uterine rupture, massive hemorrhage, placenta accreta spectrum, and potential loss of fertility.

Case Presentation: We report a case of a woman in her early thirties presenting with pelvic pain, fever, and persistent low-level β-hCG, initially managed as infected retained products of conception. Laboratory findings demonstrated raised inflammatory markers, and empirical intravenous antibiotics were commenced. Subsequent transvaginal ultrasound identified a highly vascular mass at the site of the previous caesarean-section scar with an irregular hemorrhagic sac-like structure and absent myometrial covering, consistent with a failed caesarean-scar pregnancy. Due to clinical deterioration and concern regarding possible uterine rupture, surgical management was undertaken. Histopathology confirmed products of conception, and serial β-hCG levels declined appropriately during follow-up.

Discussion: This case highlights the diagnostic challenge of caesarean-scar pregnancy when clinical features overlap with more common early pregnancy complications. Transvaginal ultrasound with Doppler assessment remains the cornerstone of diagnosis and is essential for timely management.

Conclusion: Caesarean-scar pregnancy should be considered in women with previous caesarean delivery presenting with pelvic pain, abnormal bleeding, or persistent β-hCG levels. Early recognition and specialist imaging are critical to prevent life-threatening complications and optimize patient outcomes.

Keywords: caesarean-scar pregnancy, ultrasound, haemorrhage, women

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Abdelrahman Issa,[1] Moustafa Eissa[2]
[1]Obstetrics & Gynaecology Department, Acute Hospitals, Worcester, Nobles Hospital, IOM, UK
[2]Obstetrics & Gynaecology Department, Nobles Hospital, IOM

Correspondence: Moustafa Eissa, MD FRCOG, Obstetrics & Gynaecology Department, Nobles Hospital, IOM, UK, Email: mosteissa@hotmail.com

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Introduction

Caesarean-scar pregnancy is a rare form of ectopic pregnancy in which the gestational sac implants within the myometrial defect of a previous caesarean section scar. Since its first description, the incidence has increased in parallel with rising caesarean delivery rates and improved access to early transvaginal ultrasound. The reported incidence ranges from 1 in 1,800 to 1 in 2,500 pregnancies.[1,2]

Caesarean-scar pregnancy is associated with significant maternal morbidity, including severe haemorrhage, uterine rupture, placenta accreta spectrum, and hysterectomy if diagnosis is delayed.[3] Early diagnosis and appropriate management are therefore critical to improving outcomes.

Objective

To report a case of a failed caesarean-scar pregnancy initially managed as infected retained products of conception and to demonstrate how ultrasound findings altered the diagnosis and management.

Methods

This is a retrospective case report of a single patient presenting to the emergency department. Clinical presentation, laboratory investigations, imaging findings, surgical management, histopathology, and follow-up outcomes were reviewed from the medical records. Management followed standard clinical practice, and no experimental interventions were undertaken.

Case report

A woman in her early thirties presented to the emergency department on 4 January 2024 with pelvic pain, fever, and sweats. She had a history of previous caesarean delivery and had undergone a termination of pregnancy in March 2023. She reported several days of worsening lower abdominal discomfort.

Initial blood investigations showed a β-hCG level of 1,097 IU/L, CRP of 59 mg/L, and WCC of 12.2 ×10⁹/L. Haemoglobin was 112 g/L and platelets were 195 ×10⁹/L. She was admitted with a provisional diagnosis of infected retained products of conception and commenced on intravenous gentamicin, co-amoxiclav, and intravenous fluids.

On 5 January, she remained febrile with a temperature of 38.7°C. Observations showed blood pressure 104/62 mmHg, heart rate 97 bpm, respiratory rate 22 breaths per minute, and oxygen saturation 99 percent on room air. Repeat blood tests demonstrated a haemoglobin of 101 g/L, WCC 6.9 ×10⁹/L, neutrophils 5.9 ×10⁹/L, and platelets 128 ×10⁹/L. Renal and liver function tests were within normal limits.

Pelvic ultrasound demonstrated an anteverted uterus with a smooth endometrium measuring 5.6 mm, which appeared to divide within the cervical region. A complex, highly vascular mass measuring 48 × 32 × 40 mm was identified at the site of the previous caesarean-section scar.

Within this mass, an irregular haemorrhagic sac-like structure measuring 18 × 14 × 13 mm was noted, with no visible myometrial covering. Free fluid extended from the pouch of Douglas to the left pelvic side. Both ovaries appeared normal. These findings were highly

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suggestive of a failed caesarean-scar pregnancy, and uterine rupture could not be excluded.

Surgical management was undertaken on 5 January 2024. Histopathological examination, reported on 10 January 2024, confirmed the presence of chorionic villi, decidual tissue, fibrin, and blood, with no evidence of gestational trophoblastic disease. Serial β-hCG monitoring showed a decline to 6 IU/L by 23 January 2024, and the patient was subsequently discharged from follow-up.

Discussion

Caesarean-scar pregnancy remains a diagnostic challenge, particularly when clinical features overlap with other early pregnancy complications such as miscarriage or retained products of conception. In this case, the patient initially presented with pelvic pain, fever, raised inflammatory markers, and a low but persistent β-hCG level, leading to a provisional diagnosis of infected retained products of conception. Similar diagnostic delays have been reported in the literature, especially when early imaging is not immediately diagnostic.[2]

Transvaginal ultrasound is the cornerstone of diagnosis. Jurkovic et al.[4] described key sonographic criteria, including an empty uterine cavity, a gestational sac located in the anterior lower uterine segment at the site of the caesarean scar, absence or thinning of the myometrium between the sac and the bladder, and marked peritrophoblastic vascularity on Doppler imaging. These features were clearly demonstrated in this case, where a highly vascular mass was identified at the caesarean-section scar with no myometrial covering, strongly supporting the diagnosis.

Failure to recognize caesarean-scar pregnancy early can result in uterine rupture and life-threatening haemorrhage. Timor-Tritsch and Monteagudo[3] emphasised that caesarean-scar pregnancy represents part of a spectrum of abnormal placentation and may progress to early placenta accreta if allowed to continue. This highlights the importance of early imaging in women with previous caesarean delivery presenting with pain, bleeding, or unexplained β-hCG levels.

Management strategies vary depending on gestational age, haemodynamic stability, and available expertise. Options described in the literature include systemic or local methotrexate, ultrasound-guided aspiration, hysteroscopic or laparoscopic resection, and laparotomy in cases of rupture or haemodynamic instability.[1,5] In this case, surgical management was appropriate given the suspicion of rupture and the patient's clinical deterioration.

This case adds to the existing literature by illustrating how caesarean-scar pregnancy can mimic infected retained products of conception and reinforces the need for a high index of suspicion. Early specialist ultrasound assessment was pivotal in altering management and preventing further morbidity.

Ethical considerations

Written informed consent was obtained from the patient for publication of this case report and associated clinical details. As this was a single retrospective case report with no deviation from standard clinical care, formal ethical committee approval was not required in accordance with local institutional policy.

Recommendations

Based on this case and existing evidence, the following recommendations are made:

a) Caesarean-scar pregnancy should be considered in all women with a history of caesarean delivery presenting with pelvic pain, abnormal bleeding, or persistent β-hCG.

b) Early transvaginal ultrasound with Doppler assessment should be performed to assess implantation site and vascularity.

c) Prompt referral to a senior obstetrician or early pregnancy specialist is essential when caesarean-scar pregnancy is suspected.

d) Clear documentation of patient consent and follow-up outcomes should be included in all reported cases.

Conclusion

Caesarean-scar pregnancy is a rare but potentially life-threatening condition. This case highlights the importance of early ultrasound diagnosis in patients with previous caesarean delivery and atypical early pregnancy presentations. Prompt recognition and appropriate intervention are essential to prevent uterine rupture, severe haemorrhage, and loss of fertility.

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Conflicts of interest

The authors declare no conflict of interest related to this publication.

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