Scarred but Silent: A Caesarean Scar Pregnancy Unmasked

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Keywords

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Abstract

Caesarean scar pregnancy(CSP) is a rare and life threatening form of ectopic pregnancy where gestational sac implants at site of previous uterine incision. Misdiagnosis, particularly as a blighted ovum, can lead to inappropriate interventions and serious complications. It is a case of a 32-year-old woman, presented with history of prior caesarean section, with complains of persistent vaginal spotting and was initially managed for a blighted ovum with manual vacuum aspiration (MVA). Persistent symptoms prompted further imaging which confirmed a CSP. The patient was treated with a multidose systemic methotrexate protocol. This case signifies the need for heightened clinical suspicion, careful imaging interpretation, and appropriate management to preserve fertility and prevent morbidity in women suspecting early pregnancy complications following caesarean delivery.

Introduction

Caesarean scar pregnancy is a dangerous form of ectopic pregnancy, characterized by the implantation of the gestational sac within the myometrial defect at site of previous caesarean section scar. This unique implantation site represents a significant diagnostic and therapeutic challenge for clinicians. CSP accounts for approximately

6.1% of all ectopic pregnancies in a woman with prior caesarean delivery and has an estimated incidence of 1 in 1800 to 1 in 2216 pregnancies, with reports indicating a rising trend globally due to increasing caesarean delivery rates and improved early pregnancy surveillance through transvaginal ultrasonography[1–2].

CSP is classified into two subtypes: type I (endogenic), in which the gestational sac grows into the uterine cavity, and type II (exogenic) where the sac deeply implants inside the myometrium and grows toward serosa or bladder wall[3]. The latter is associated with increased risk of uterine rupture, severe haemorrhage and maternal morbidity or mortality. The exact pathophysiology is not fully understood, but poor healing and fibrosis at the uterine incision site are believed to create microdehiscent tracts into which the embryo may implant[4].

Clinically, CSP presents with non specific symptoms such as painless vaginal bleeding, lower abdominal pain, leading to misdiagnoses such as spontaneous abortion, cervical pregnancy or retained products of conception(RPOC). Notably, up to one-third of CSP cases may be asymptomatic at presentation, further complicating prompt diagnosis[5]. Transvaginal ultrasonography with color Doppler imaging is the cornerstone of early diagnosis, providing characteristic features including empty uterine and cervical canal and a gestational sac embedded within anterior lower uterine segment at scar site, and prominent peritrophoblastic vascularity[6]. In equivocal cases, magnetic resonance imaging (MRI) may be useful in confirming diagnosis and assessing the extent of invasion[7].

Management of CSP remains a matter of clinical judgment and must be individualized. Options include systemic or local methotrexate administration, surgical excision (via hysteroscopy, laparoscopy, or laparotomy), uterine artery embolization (UAE), and, in severe cases, hysterectomy[8–9]. Systemic methotrexate is generally effective in hemodynamically stable patients with the early gestational age, low β-hCG levels & absence of fetal cardiac activity[10]. However, misdiagnosis or inappropriate initial interventions—such as dilation and curettage without prior imaging—can exacerbate complications and may result in catastrophic hemorrhage or uterine rupture[11].

This case report presents a rare instance of CSP that was initially misdiagnosed as a blighted ovum and incorrectly managed with manual vacuum aspiration (MVA). The case was later correctly identified as CSP and successfully managed with a multidose systemic methotrexate protocol. It emphasizes the necessity of accurate diagnosis, the role of transvaginal ultrasonography in early pregnancy assessments, and the importance of high index of suspicion in women with the history of caesarean delivery presenting with early pregnancy complications.

Case Report

A 32 year old female, G4P1L1A1 presented with 5 weeks and 2 days gestation with complaints of brownish per vaginal discharge for one month. She had a history of a lower segment caesarean section (LSCS) performed 4 years prior. A weakly positive urine pregnancy test and a transabdominal scan suggested a blighted ovum. Consequently, the patient underwent manual vacuum aspiration (MVA). A post-procedure check scan showed retained products of conception (RPOC) localized near lower uterine segment.

The patient continued to have symptoms, prompting further evaluation. A transvaginal ultrasound revealed a 2.6 × 2.8 cm hyperechoic mass with peripheral vascularity in the lower uterine segment, consistent with caesarean scar pregnancy. Serum β-hCG was 5.72 mIU/ml. A contrast-enhanced CT scan confirmed a well-defined heterogenous lesion in anterior lower uterine segment protruding into the endometrial canal, with myometrial thinning and T2 hyperintensity.

Both ovaries demonstrated simple follicular cysts. Given the diagnosis of CSP and low β-hCG levels, a decision was made for medical management using methotrexate. The patient received intramuscular methotrexate 35 mg on days 1, 3, and 5, along with leucovorin 5 mg IM on days 2, 4, and 6. On day 7, β-hCG had dropped to 1.63 mIU/ml. A repeat transvaginal scan showed endometrial thickness of 0.8 mm and a clear uterine cavity with normal adnexa.

Ten days later, β-hCG was negligible, and no residual gestational tissue was seen in the scar area. The patient remained asymptomatic and was discharged with follow-up advice.

Discussion

The presented case illustrates a classic diagnostic dilemma in early pregnancy following caesarean delivery. Misinterpretation of early sonographic features led to the initial diagnosis of a blighted ovum and inappropriate MVA. Persisting symptoms prompted detailed imaging which correctly identified a CSP, highlighting the vital role of transvaginal ultrasound and Doppler studies in early gestational assessments[2].

CSP can be classified into two types: type I (endogenic) in which pregnancy grows inside uterine cavity and type II (exogenic), where the sac invades the myometrium and protrudes toward the abdominal cavity[1]. The latter poses higher risk due to thin or absent myometrial buffer and predisposition to uterine rupture.

Transvaginal ultrasound remains the diagnostic modality of choice, with features such as an empty uterine cavity, gestational sac located in the anterior isthmus, myometrial thinning, and prominent peritrophoblastic flow[6]. MRI may serve as a second-line tool in ambiguous cases or where surgical planning is required[7].

Medical management with systemic methotrexate is appropriate for hemodynamically stable patients with no fetal cardiac activity, small gestational size, and β-hCG < 5000 mIU/ml[10]. In our case, β-hCG was already on the decline, and the patient responded well to a multidose methotrexate regimen. This aligns with reports that show success with systemic methotrexate especially in early gestation CSPs[8].

In contrast, higher β-hCG levels or poor response may necessitate surgical options such as hysteroscopic resection, laparoscopy, or uterine artery embolization. Notably, recent case series emphasize the importance of tailoring treatment to individual patient factors such as gestational age, sac size, and fertility desires[2].

This case emphasizes the need for high index of suspicion in patients with the history of caesarean delivery and atypical early pregnancy bleeding. Timely and accurate diagnosis can prevent unnecessary uterine interventions and preserve fertility.

Conclusion

Caesarean scar pregnancy is a life threatening form of ectopic pregnancy. Early and accurate diagnosis using transvaginal ultrasound is critical to prevent life-threatening complications. In our case, timely identification and conservative management with systemic methotrexate led to successful resolution without surgical intervention. This case reinforces the need for awareness and individualized care plans in women with previous caesarean deliveries presenting with early pregnancy complications.

References

1. Morente LS, León AIG, Reina MPE, et al. Cesarean Scar Ectopic Pregnancy—Case Series: Treatment Decision Algorithm and Success with Medical Treatment. Medicina. 2021;57:362.

2. An TY, Nagandla K, Kumar K, Daniel A. Caesarean section scar pregnancy: a case series. Int Surg J. 2024;11(4):612–616.

3. Vial Y, Petignat P, Hohlfeld P. Pregnancy in a cesarean scar. Ultrasound Obstet Gynecol. 2000;16(6):592–593.

4. Rotas MA, Haberman S, Levgur M. Cesarean scar ectopic pregnancies: etiology, diagnosis, and management. Obstet Gynecol. 2006;107(6):1373–1381.

5. Gonzalez N, Tulandi T. Cesarean scar pregnancy: a systematic review. J Minim Invasive Gynecol. 2017;24(5):731–738.

6. Jurkovic D, Hillaby K, Woelfer B, et al. First-trimester diagnosis and management of pregnancies implanted into the lower uterine Caesarean section scar. Ultrasound Obstet Gynecol. 2003;21:220–7.

7. Hoffmann J, Exner M, Bremicker K, et al. Cesarean section scar in 3T magnetic resonance imaging and ultrasound: image characteristics and comparison of the methods. Arch Gynecol Obstet. 2019;299(2):439–49.

8. Levin G, Zigron R, Dior UP, et al. Conservative management of Caesarean scar pregnancies with systemic multidose methotrexate: predictors of treatment failure and reproductive outcomes. Reprod Biomed Online. 2019;39(5):827–34.

9. Keung JJ, Spies JB, Caridi TM. Uterine artery embolization: a review of current concepts. Best Pract Res Clin Obstet Gynaecol. 2018;46:66–73.

10. Bodur S, Özdamar Ö, Kılıç S, Gün I. The efficacy of the systemic methotrexate treatment in caesarean scar ectopic pregnancy: a quantitative review. J Obstet Gynaecol. 2015;35(3):290–6.

11. Jayaram PM, Okunoye GO, Konje J. Cesarean scar ectopic pregnancy diagnostic challenges and management options. Obstet Gynaecol. 2017;19(1):13–20.

Abbreviations Used

CSP – Caesarean Scar Pregnancy; **LSCS** – Lower Segment Caesarean Section; **MVA** – Manual Vacuum Aspiration; **β-hCG** – Beta Human Chorionic Gonadotropin; **MRI** – Magnetic Resonance Imaging; **UAE** – Uterine Artery Embolization; **MTX** – Methotrexate; **D&C** – Dilatation and Curettage; **IM** – Intramuscular; and **TVUS** – Transvaginal Ultrasound.