

CASE REPORT

Successful Medical Management of Cesarean Scar Pregnancy with High β -hCG Levels

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INTRODUCTION

Cesarean scar pregnancy (CSP) is a rare form of ectopic pregnancy in which an embryo gets implanted in the myometrium of the previous cesarean scar site. There is an increased incidence of CSP over the past two decades due to the increased cesarean delivery rate worldwide. The clinical presentation is variable and also difficult to diagnose in a timely fashion. If left untreated, it might lead to uterine rupture and life-threatening hemorrhage. In view of high rates of severe maternal morbidity and mortality, early diagnosis and termination of pregnancy are recommended soon after the diagnosis. Termination can be performed by either surgical or medical methods. Various management plans have been proposed by researchers based on the gestational age, presence of cardiac activity, thickness of the myometrium, and symptoms on presentation. But there is no standard guideline for the management of CSP.

CASE DESCRIPTION

A 36-year-old woman with a history of previous two cesarean sections came to our antenatal OPD with complaints of amenorrhea for 45 days with a positive urine pregnancy test. On general examination, she was hemodynamically stable without pallor, pedal edema, or icterus. A bimanual examination revealed a bulky uterus without any adnexal masses or tenderness. Hemoglobin, blood sugar level, renal, and liver function tests were found to be normal. Transvaginal ultrasound (TVS) revealed a well-defined gestational sac with yolk sac, fetal pole, and cardiac activity corresponding to 6 weeks and 3 days in the lower uterine cavity (Fig. 1). The sac was closely adherent to previous cesarean scar with thinning of lower uterine segment (anterior myometrium – 2.3 mm). The serum β -hCG level on admission was 21048 mIU/mL. Magnetic resonance imaging (MRI) was done to confirm the diagnosis of viable cesarean scar pregnancy. Figure 2 demonstrates a T2 sagittal image of pelvis showing a gestational sac in the lower uterine cavity at the site of previous scar with marked thinning of the overlying anterior myometrium (1.3 mm) without any evidence of scar rupture. After detailed counseling regarding the available management options, the patient opted for medical management. So, our patient received the first dose of methotrexate (50 mg/m² body surface area) intramuscularly. The serum β -hCG levels on days 4 and 7 were 19901 mIU/mL and 18730 mIU/mL, respectively. The second dose of methotrexate was given on day 7. The serum β -hCG levels on days 11 and 14 were 17108 mIU/mL and 15021 mIU/mL, respectively, requiring another dose of methotrexate.

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The β -hCG level on day 18 decreased to 7976 mIU/mL. The patient was discharged and followed with weekly β -hCG levels, which became negative on day 72. Transvaginal ultrasound revealed a persistent gestational sac that expelled spontaneously by day 84.

DISCUSSION

The first patient of CSP was diagnosed in 1978.¹ The incidence varies from 1:1800 to 1:2216.¹ Among all ectopic pregnancies in women with a previous cesarean scar, CSP represents 6.15%.¹ The exact pathogenesis was not understood well since. The most plausible



Fig. 1: Transvaginal ultrasound revealed a well-defined gestational sac with yolk sac and fetal pole in the lower uterine cavity

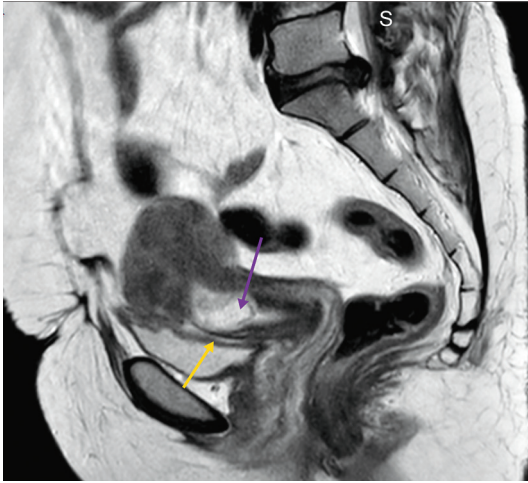


Fig. 2: T2 sagittal image of the pelvis showing gestational sac in the lower uterine cavity at the site of previous scar (violet arrow) with marked thinning of the overlying anterior myometrium (yellow arrow)

cause is formation of microtubular tract due to incomplete healing of cesarean scar and implantation of the blastocyst at that site.² The tract may develop due to previous trauma in the uterus by surgeries like uterine curettage, cesarean section myomectomy, or hysteroplasty.¹ The most common symptom of CSP is mild vaginal bleeding.² Some may present with lower abdominal pain. Cesarean scar pregnancy leads to early myometrial invasion and causes uterine rupture, life-threatening hemorrhage, and even death. The presence of severe pain with hemodynamic instability indicates ruptured CSP. Ultrasound imaging (USG) is the primary imaging modality of choice for diagnosis.³ MRI has been used as an adjunct to USG in patients, where it is difficult to rule out placenta accreta and in patients with inconclusive USG findings.³ Endogenous and exogenous types of CSP have been described. Type I is endogenous CSP, where implanted gestational sac on the cesarean scar will grow toward the endometrial cavity.² When the implanted gestational sac on the cesarean scar grows toward the abdominal cavity, it is called as type II (exogenic type) CSP.² Generally, treatment is individualized according to the β -hCG level, patient's hemodynamic status, gestational sac size, and need for future fertility.¹ The modalities that have been described for CSP treatment include medical treatment with methotrexate injection alone or in combination with bilateral uterine artery embolization (UAE), dilation and uterine curettage alone or with the UAE, hysteroscopic resection, abdominal/laparoscopic resection of the implanted sac and closure of the defect, vaginal excision and resuturing of defect, combined laparoscopic and hysteroscopic procedure, combined laparoscopic and vaginal procedure, or hysterectomy.³ The least invasive treatment is medical management with systemic methotrexate and it is considered for hemodynamically stable patients with gestational age less than

8 weeks and β -hCG level less than 5000 mIU/mL.³ In a retrospective analysis, Lin et al.⁴ enrolled 109 patients with CSP and designated them into four groups based on gestational sac location and the thickness of the myometrium. The study concluded that there is no significant difference noted between the success and failure groups in relation to gestational age, initial β -hCG value, viability, thickness of the myometrium, and the use of medical management with methotrexate. However, 48.3% of patients who received chemotherapy suffered from bleeding complication. Though medical management avoids surgical morbidity and also preserves fertility, it might lead to complications like bleeding, retained products of conception, and need of additional intervention.⁴ The duration of treatment is also prolonged compared with the surgical method. Also, there is a need for follow-up with β -hCG levels, until complete resolution of the CSP mass and normalization of values.

Our patient was hemodynamically stable with gestational sac of 6 weeks and 3 days and serum β -hCG level of 21048 mIU/mL. After explaining the available management options and the associated risks, the patient opted for medical management. After three doses of injection methotrexate, serum β -hCG level was on decreasing trend. Our patient was successfully managed by medical management alone without any complication.

CONCLUSION

Cesarean scar pregnancy is a rare diagnosis. Though various modalities are available, surgical management is preferred for CSP with high β -hCG levels. Medical management can be tried in patients who are hemodynamically stable with gestational sac less than 8 weeks, to preserve fertility and to avoid surgical morbidity. However, it requires a prolonged follow-up and also the complications associated with it should be counseled to the patients appropriately.

CONSENT

A written informed consent was obtained from the patient for the publication of this case report.

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