



CONSERVATIVE SURGICAL MANAGEMENT OF CESAREAN SCAR ECTOPIC PREGNANCY: A CASE REPORT

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ABSTRACT Cesarean scar ectopic pregnancy is a complex iatrogenic pathology occurring in 1:1,800 to 1:2,200 of all pregnancies. It is associated with high maternal morbidity and mortality; therefore, early diagnosis and effective management are of utmost significance. Symptoms include amenorrhea, pelvic pain and vaginal bleeding in the first trimester. The investigation of choice is transvaginal ultrasound. In equivocal cases, magnetic resonance imaging can help in confirming the diagnosis. Treatment modalities are dictated by the case presentation, gestational age and size, type of implantation, hemodynamic stability, and patient's desire for future fertility. We report a rare case of caesarean scar ectopic pregnancy managed by conservative surgical approach after failed medical management

KEYWORDS : Scar ectopic pregnancy, Abnormal implantation, Conservative surgical approach

Cesarean scar ectopic pregnancy is a complex iatrogenic pathology defined as the blastocyst implanting in myometrium at the site of a previous caesarean scar, occurring in 1:1,800 to 1:2,200 (0.05%-0.4%) of all pregnancies. The incidence does not correlate with the number of prior caesarean deliveries, though it is rising with increase in caesarean rates, improved detection with transvaginal ultrasound and with increase of scarring in the endometrium due to curettage, myomectomy, hysteroscopy, manual delivery of placenta and assisted reproductive techniques¹.

Pathogenesis involves implantation into myometrium through a microscopic tract or dehiscence in the previous uterine scar². It is associated with high maternal morbidity and mortality; therefore, early diagnosis and effective management are of utmost significance.

There are two types of caesarean scar ectopic pregnancy. In first type, the implanted gestational sac grows towards the uterine cavity. Such pregnancy might proceed to term but has an increased risk of life-threatening hemorrhage from the implantation site. In second type, implanted gestational sac grows towards the uterine serosa. This type carries risk of rupture and hemorrhage during the first trimester³. Symptoms include amenorrhea, pelvic pain and vaginal bleeding in the first trimester. Many may be asymptomatic at diagnosis. The investigation of choice is transvaginal ultrasound, which may be combined with a transabdominal scan. In equivocal cases, magnetic resonance imaging can help in confirming the diagnosis⁴. Treatment modalities are dictated by the case presentation, gestational age and size, type of implantation, hemodynamic stability, and patient's desire for future fertility.

Case report

We report a rare case of 37-year-old female G4P2L1A1 with two months amenorrhea presented in outpatient department of Obstetrics and Gynecology, a rural tertiary care hospital in North India; referred in view of ultrasound scan depicting pregnancy in the lower uterine segment with absent cardiac activity. There were no symptoms like abdominal pain or vaginal bleeding. There was history of intrauterine death at term followed by vaginal delivery. Patient had a first trimester abortion followed by curettage. In subsequent pregnancy, patient was diagnosed with cervical incompetence at 16 weeks for which cerclage was performed, followed by lower segment cesarean at 38 weeks. She was a case of hypothyroidism on treatment. There was no history suggestive of pelvic inflammatory disease, smoking, alcohol or use of contraceptive.

General physical examination: blood pressure 110/60 mm Hg, pulse rate of 88 beats/min, respiratory rate of 18 breaths/min and O₂ saturation was 99%. Cardiorespiratory and neurological systems were normal. Abdomen soft, showing a transverse pfannenstiel scar, however no tenderness or distension was present. On per speculum

examination: cervix with bluish hue and closed internal os. On bimanual pelvic examination: cervix soft, uterus anteverted, anteфлекed, 6 weeks size, bilateral fornices free. There was no cervical motion tenderness.

Investigation: Blood group - AB positive, hemoglobin 12.4 g/dl, platelet count 285 × 103/μl. Her LFT, RFT, GCT were normal. Viral markers nonreactive. Urine pregnancy test was positive and serum βhCG 6000mIU/ml.

Imaging findings

Transvaginal ultrasound depicted a gestational sac of diameter 12 mm (corresponding to GA 6w1d +/- 1week) in lower uterine segment, which was eccentrically located in the anterior wall of uterus abutting the previous caesarean scar; yolk sac and fetal pole visualized; cardiac activity was absent and a probable diagnosis of caesarean scar ectopic pregnancy was made. Endometrium appeared thickened (1.6cm) with decidual reaction.

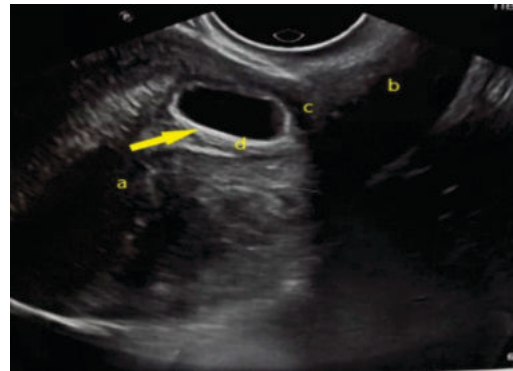


Figure-1: Transvaginal ultrasound showing caesarean scar ectopic pregnancy.

- a- Uterus
- b- Cervix
- c- Caesarean scar
- d- decidual reaction



Caesarean scar ectopic pregnancy.

Patient and her partner were counselled regarding management options with their associated benefits and risks. Medical management using methotrexate regimen was chosen after informed consent and 1mg/kg (84mg calculated dose) was administered intramuscularly on days 1, 3, 5, and 7 with folic acid (0.1 mg/kg) on days 2, 4, 6, and 8. Vital signs remained stable and levels of βhCG went from 6000

mIU/ml on day 0, to 10000 mIU/mL on day 4, to 13152 mIU/mL on day 7. On day 10, it declined to 9908 mIU/mL. However, patient's successive ultrasound revealed an increase in mean sac diameter from 1.2 cm on day 0, to 1.39 cm on day 5, to 1.7 cm up till day 10, with gestational sac protruding towards endometrial cavity (Figure 1).

A decision for Suction and Evacuation was taken after taking informed consent. Suction and Evacuation was performed under USG guidance. Postoperatively, her vitals were stable.

Serum β hCG declined to 2262 mIU/ml on postoperative day one. Recovery was uneventful and patient was discharged on postoperative day 3. Histopathology revealed chorionic villi, syncytiotrophoblasts, cytotrophoblasts, decidual fragments and few fragmented endometrial glands, no evidence of infarction. At follow-up, β HCG was 36.1 and 1.4 mIU/ml after one and two weeks respectively. Patient was advised to avoid future pregnancy for at least six months.

Discussion

The first case with a Cesarean scar ectopic pregnancy was reported by Larsen and Solomon in 1978⁵. Accurate sonographic localization of pregnancy is critical in directing management and allows for successful uterine preservation. The differential diagnosis includes threatened miscarriage, cervical pregnancy and malignant trophoblastic tumor⁶.

Transvaginal ultrasound remains gold standard for diagnosis of cesarean scar ectopic pregnancy with 86.4% sensitivity⁷. The diagnostic criteria for diagnosing cesarean scar pregnancy include empty uterine and endocervical canal, gestational sac located anteriorly at the level of internal os embedded at the site of previous lower segment cesarean scar, thin or absent layer of myometrium between the gestational sac and bladder and evidence of prominent trophoblast or placental circulation on doppler examination⁴.

In case of equivocal USG, noncontrast MRI is informative in the evaluation. It can confirm possibility of myometrial invasion, bladder involvement and measure volume of gestational sac. Management modalities include expectant management, medical management, surgery or uterine artery embolization. The expectant, conservative and surgical management have success rate of up to 41.5%, 75.2% and 97.1% respectively⁷. Medical management with methotrexate may be performed by local injection into the sac under ultrasound guidance or by intramuscular injections. Risk of recurrent scar ectopic pregnancy is about 3.2–5%⁸.

In our case, even after methotrexate therapy, her successive ultrasound showed an increase in mean sac diameter from 1.2 cm to 1.7 cm up till day 10. Patients not responding to medical management, may require surgical intervention consisting of dilatation and curettage, hysteroscopic resection, or excision via laparotomy or laparoscopy. However, hysteroscopic or laparoscopic resection is not recommended for patients with <3 mm of myometrial scar thickness, due to risk of bladder injury⁹. In present case, USG guided Suction and Evacuation was done and her serum β hCG declined post evacuation. Surgical intervention may result in uncontrollable hemorrhage in such cases from associated placenta accreta or uterine rupture and patient may require emergency hysterectomy¹⁰.

Conclusion

Scar ectopic pregnancy poses a diagnostic challenge that calls for obstetricians and radiologists to maintain a high index of suspicion. A missed diagnosis with delay in management may lead to grave consequences. Conservative medical management with methotrexate/conservative surgical management with ultrasound guided suction and evacuation are safe, cost-effective modalities, thereby preserving the uterus and preventing need for laparotomy/ hysterectomy. A multidisciplinary effort involving obstetrician, interventional radiologist, and anesthesiologist can allow for safe conservative surgical approach thereby reducing maternal morbidity and mortality.

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