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Case Study

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CAESEREAN SCAR PREGNANCY – A CASE REPORT

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ABSTRACT

The prevalence of caesarean scar pregnancy (CSP) is estimated to be approximately 1 in 2000 pregnancies. There has been a significant rise in reports of CSP, owing to imaging options, clinician awareness, increasing numbers of Caeserean section. Early diagnosis and appropriate intervention help in avoiding morbidity. Delayed diagnosis or rather misdiagnosis can be catastrophic. There is no definitive guidelines on management of CSP. We report a case of non-viable CSP that was diagnosed in early pregnancy by trans vaginal ultrasound and medically managed without maternal morbidity. She was on follow up with beta human chorionic gonadotrophin (HCG). The cornerstone in management is correct diagnosis and tailor-made treatment.

KEYWORDS: Caeserean scar, ectopic pregnancy, Methotrexate.

INTRODUCTION

Ectopic pregnancies are the leading cause of maternal mortality in the first trimester, with an incidence of 5%–10% of all pregnancy-related deaths.[1] Caesarean scar pregnancy (CSP) is defined as implantation of gestation into the myometrial defect occurring at the site of the previous uterine incision. The most probable mechanism that can explain scar implantation is (a) invasion of the myometrium through a microtubular tract between the caesarean section scar and the endometrial canal (b) damage to the decidua basalis during uterine surgery can persist in the endometrium in the form of tiny dehiscent tracts or minute wedge defects. Thirteen percent of reported cases of caesarean scar pregnancy were misdiagnosed as intrauterine or cervical pregnancies at presentation.[2] Caesarean scar pregnancy may present from as early as 5–6 weeks to as late as 16 weeks.[3] Women diagnosed with caesarean section scar pregnancies should be counselled that such pregnancies are associated with severe maternal morbidity and mortality.

We report a case of non-viable CSP that was diagnosed in early pregnancy by trans vaginal ultrasound and medically managed without maternal morbidity.

CASE REPORT

25-year-old G2P1L1, post caesarean pregnancy at 7 weeks 6 days visited outpatient department in view of spotting per vaginum, Transvaginal Ultrasound (TVS) showed gestational sac in lower uterine segment adjacent to previous caesarean scar. She had undergone emergency lower segment caesarean section six years ago in view of gestational diabetes on insulin therapy with macrosomia. Beta HCG was 9416 mIU/ml. Diagnosis of caeserean scar ectopic pregnancy was done. She was explained regarding caeserean scar pregnancy and its management options. Pros and cons of medical (Methotrexate)/surgical management (USG guided suction evacuation/hysteroscopic evacuation /laparoscopy/ laparotomy) explained. Need for uterine artery embolization (UAE) in case of excessive bleeding explained. Opted for medical management. Need for repeat dose of methotrexate, emergency surgery if evidence of scar rupture explained.

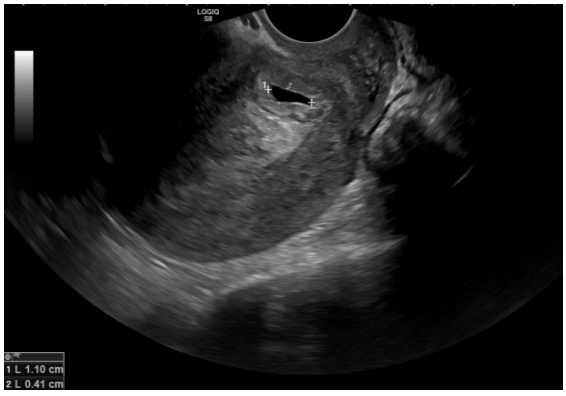

Figure 1: TVS showing gestational sac on caeserean scar.

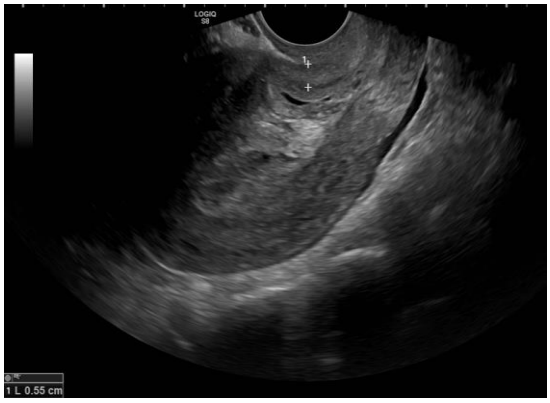

Figure 2: TVS showing anterior myometrial thickness in CSP.

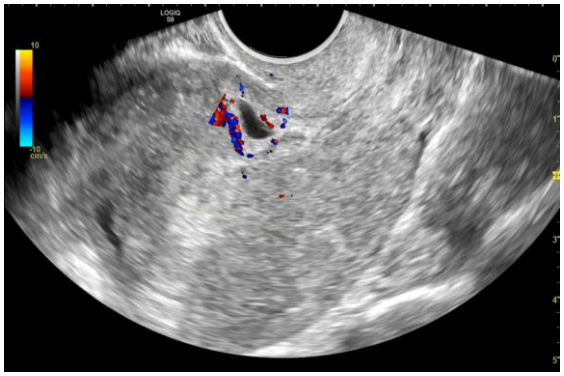

Figure 3: TVS showing Doppler flow around CSP.

At admission, Weight: 50kg, Height:151cms, Body mass index :21.9, Pulse rate: 100/min, Blood Pressure: 110/80mmHg, Afebrile, no pallor, Abdomen was soft, nontender. Her complete blood counts, liver and renal parameters were normal. Blood sugar was elevated Hba1c 11.3, started on insulin. She was given methotrexate (72.5 mg) according to body surface area. Repeat beta HCG on Day 4 was 9697mIU /ml. Second dose of methotrexate was administered. Following that day 7 beta HCG showed 45 % fall (5278 mIU/ml). She was monitored with beta HCG follow up. Day 11 beta HCG showed 60-65% fall (1970mIU/ml). Ultrasound showed a collapsed gestational sac. She was on weekly beta HCG follow up till it reached non pregnant range (262, 45,17.3, 5.23). She achieved non pregnant range in six weeks. Ultrasound showed disappearance of sac. She was on monthly follow up with beta HCG (2.9,2.7) next 2 months. She was initated on intra uterine contraception once she resumed her periods. She was explained regarding risk associated with future pregnancy.

DISCUSSION

The prevalence of caesarean scar pregnancy (CSP) is estimated to be approximately 1 in 2000 pregnancies.[4] CSP is unique in the sense, it may proceed as viable pregnancies with maternal morbidity or end as miscarriages within the scar.

The natural course of CSP is uncertain with varied spectrum of severity. The most common presenting symptoms are non-specific including mild abdominal pain or painless bleeding alone, highlighting the need for clinical vigilance and suspicion in women with a background of previous caesarean presenting with these symptoms in early pregnancy. Undiagnosed CSP may progress to uterine rupture, haemorrhage and death. CSP shares histopathological similarity with placenta accreta spectrum (PAS).

Vial et al[5] proposed two different types of pregnancies implanted in a caesarean scar.

Type 1 progressing into the uterine cavity as the gestational sac grows and so has the potential to reach a viable gestational age, but with the risk of massive bleeding from the implantation site.

Type 2 progressing deeper towards the uterine serosa with the risk of first trimester rupture and haemorrhage.

Ban et al,[6] proposed new clinical classification system for cesarean scar pregnancy, which is as follows.
Type I - implantation of a gestational sac within the caesarean scar, with anterior myometrium thickness greater than 3 mm regardless of the size of the gestational sac.
Type II a - anterior myometrium thickness between 1 and 3 mm, average diameter of the gestational sac or mass 30 mm or less.
Type II b - anterior myometrium thickness between 1 and 3 mm, average diameter of the gestational sac or mass greater than 30 mm.
Type III a - the gestational sac bulges out under the caesarean scar, with anterior myometrium thickness 1 mm or less, average diameter of the gestational sac or mass 50 mm or less.
Type III b - anterior myometrium thickness 1 mm or less and average diameter of the gestational sac or mass greater than 50 mm.

CSP is diagnosed by transvaginal ultrasound. Diagnostic criteria include.[7]
1. Empty uterine cavity.
2. Gestational sac located anteriorly at the level of the internal os embedded at the site of the previous lower uterine segment caesarean section scar.
3. Thin or absent layer of myometrium between the gestational sac and the bladder.
4. Evidence of prominent trophoblastic/placental circulation on Doppler examination.
5. Empty endocervical canal.

Magnetic Resonance Imaging (MRI) features of caesarean scar pregnancy are the same as those on ultrasound.[8]

Due to the rarity of the condition, there is no consensus on the preferred mode of treatment.

The size and gestational age of the pregnancy, hemodynamic stability, desire for future fertility should be considered prior initiating treatment.[9] Medical and surgical interventions with or without additional haemostatic measures should be considered in women with first trimester CSP.

Primary medical treatment consists of using methotrexate, either by local injection into the gestational sac under ultrasound guidance or systemically by intramuscular injection.

Bodur et al[10] suggests, ideal candidates for systemic Methotrexate treatment for CSP would be <8 weeks gestation, HCG ≤ 12 000 and absent cardiac activity.

Surgical treatment consists of either evacuation of the pregnancy (using suction or hysteroscopic resection) or excision of the pregnancy as an open, laparoscopic or transvaginal procedure.[7] Anterior myometrium thickness at the scar and the diameter of the gestational sac are the independent risk factors for intraoperative haemorrhage.[6] Suction evacuation is probably the most frequently described procedure and has been combined with cervical cerclage, Foley catheter insertion or UAE as additional haemostatic measures. Excisional techniques have the advantage of incorporating a repair of the scar, but these procedures are technically more difficult and invasive, and it is not known whether scar repair reduces the risk of recurrent caesarean scar pregnancy or scar rupture in future pregnancies.

In second trimester CSP, there needs to be a balance between viable pregnancy and PAS with a plan for emergency surgical intervention whenever necessary.

CONCLUSION

Clinical corelation and early detection of first trimester CSP plays an important role in avoiding maternal morbidity. Individualised treatment depending on clinical presentation is mandatory for a successful outcome.

Declarations
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