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Case Report

A Case of Rare Form of Ectopic Pregnancy - A Case Report on Cesarean Scar Pregnancy with a Successful Fetal Outcome

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Abstract

Background: For cesarean scar pregnancy, no clear protocols have been established till now.

Case Summary: We report a case of 35-years-old woman with cesarean scar pregnancy. At Week 8, the transvaginal scan showed single live intrauterine gestation with low implantation with minimal hematoma at the inferior margin of the sac. Ultrasonography at Week 10.3 showed scar ectopic pregnancy with gestational sac thinning the anterior wall with trophoblastic reaction extending up to the serosal layer. At Week 13, ultrasonography showed pregnancy largely in the cavity, placenta overlying the scar with myometrial invasion and no trophoblast free areas in the lower segment were seen at Week 20. Mild fetal growth restriction was also observed. At Week 35.2, through cesarean section woman gave birth to a healthy male neonate.

Conclusion: Our case report suggests that successful pregnancy can be achieved in women with a uterine cesarean scar and such reports help in establishing protocols for the same.

***Keywords**: Cesarean Scar; Ectopic Pregnancy; Hematoma; Case Report*

Introduction

Cesarean scar pregnancy (CSP) is a form of ectopic pregnancy which accounts for nearly 6.1% of ectopic pregnancies and 0.15% of the total pregnancies which have already had cesarean section; estimated incidence ranges from 1 in 1800 to about 1 in 2216 [1]. Risk factors include prior use of assisted reproductive technology, extrauterine pregnancy, tubal ligation history, intrauterine device placement, increased maternal age, and active sexually transmitted infection [2]. Few reports of successful outcome of CSP have been reported in the literature. The literature contains about 750 case reports of CSP and numerous treatment modalities have been used in the past but still no clear protocols have been established due to the fact they are less known and documented [3,4].

With the epidemic of cesarean deliveries which we are facing globally, management guidelines and protocols need to be established for this dangerous form of pregnancy having lifethreatening risk of heavy bleeding and uterine rupture. We report a case of uneventful cesarean section scar pregnancy that was not terminated in the first trimester due to the insistence of expecting parents.

Case Presentation

Chief complaints

A 35-year-old Indian woman with gravida 4, para 1 (cesarean), abortion (2) came for a routine antenatal visit as soon as she missed her period. She was taking infertility treatment for the last two years (siphene ovulation induction). She first came for secondary infertility two years back and for preconception counseling.

History of present illness

She was married for 11 years and her past obstetric history was significantly challenging: 1st lower segment cesarean section (indication -PROM with failed induction); 2nd spontaneous abortion at Week 6 followed by dilation and curettage, and 3rd intrauterine death at Week 20 (on examination, dead fetus with four turns of cord around neck which was expelled using Misoprost + Prostodin). She underwent hysteroscopic myomectomy three years prior to conception.

History of past illness

The patient had a free previous medical history.

Physical examination

She underwent diagnostic laparoscopy two years prior to conception as a part of the evaluation of secondary infertility.

Imaging examinations

She was given ovulation induction with siphene followed by timed intercourse for 4 - 5 months, though conceived in a natural cycle for the present pregnancy. The patient underwent a transvaginal scan 8 weeks which showed single line intrauterine gestation with low implantation with minimal hematoma at the inferior margin of the sac. At Week 10.3, repeat ultrasonography (USG) showed scar ectopic pregnancy with gestational sac thinning the anterior wall with trophoblastic reaction extending up to the serosal layer as shown in figure A. Thus, the recommended follow-up was done for a successful outcome. Thereafter, the pregnancy continued without any significant complications. Serial USG scan done at Week 13 showed pregnancy largely in the cavity, placenta overlying the scar with myometrial invasion; rest of fetal parameters were within normal limits. Repeat USG scan done at Week 20 showed myometrial invasion by placenta up to the serosal surface, the lower segment shows no trophoblast free areas, and rest of fetal parameters was normal.

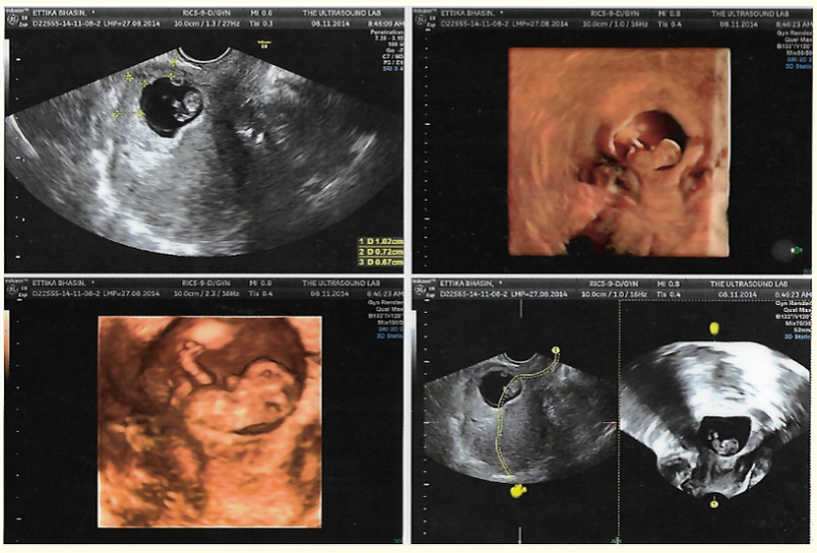

Figure A: *Different views of ultrasound done at 10.3 weeks.*

After being informed of the ectopic nature of CSP and very high risk for obstetrical bleeding, chances of abortion and uterine rupture, the couple still decided to continue the pregnancy, despite our recommendation to terminate. She was admitted twice between 16 - 20 weeks for painless bleeding per-vaginum managed conservatively. Thereafter, pregnancy continued without any significant complications.

Final diagnosis

Serial USG scans showed mild fetal growth retardation (FGR) with myometrial invasion till the serosal layer over the scar with low-lying placenta 2.2 cm from the os.

Treatment

The delivery date was set after Week 34, preferably at Week 36 but at Week 35.2 on a serial USG scan, findings were suggestive of thinned out the lower segment with dilated tortuous vessels over the scar (2.3 mm) invading up to serosa with polyhydramnios (amniotic fluid volume index-23). The decision for cesarean section was taken.

Outcome and follow-up

She gave birth to a healthy male neonate with birth weight 2.33 kg and Apgar score 8, 9, 9.

Operative findings showed large tortuous dilated vessels seen over the anterior uterine wall over the lower uterine segment (LUS) with thin serosal layer covering it. The incision was taken over LUS through the placenta and baby delivered as breech. The placenta was adherent to the anterior uterine wall in LUS and was removed piecemeal with difficulty. There was loss of myometrium interface and no cleavage plane was identified. Ragged lower segment myometrium and serosa were identified with difficulty (as the entire wall was replaced by the placenta) and were sutured with the upper segment wall with serosa in spite of dilated tortuous vessels over the LUS. The bladder was densely adherent to the LUS and was separated by sharp dissection before suturing the uterine wall. Retrograde bladder filling was done to separate the bladder as well as to check bladder integrity. An urologist was called to do check cystoscopy. B/L tubal ligation was done and uterus with ovaries was conserved as per the patient's consent. Total blood loss during the cesarean was approximately 2100 mL and the patient received 4 units of red cell concentrate and 4 units of fresh frozen plasma.

The patient and baby were discharged on Day 5. Postoperatively that patient had with a haemoglobin level of 8.7 and total leukocyte count 13,100. On Day 9 as a part of the postpartum follow-up, stitch removal was done and the stitch line was healthy; she was given Piperacillin + Tazobactam injection for 7 days postoperatively. She developed high-grade fever on Day 16 postoperatively and on USG evolution, showed a hematoma in LUS with echoes (53 x 23 mm). Urine reports also showed *E. coli* infection. She was restarted on antibiotics (Tecpime and Amikacin) for 7 days but did not respond. Magnetic resonance imaging report showed findings consistent with lower abdominal collection in relation to uterine scar site measuring about 71.2 x 38.4 x 11.5 cm with thick walls along with the scar site extending up to the anterior abdominal wall. A decision for diagnostic laparoscopy for abdominal pus drainage was taken on Day 21 postoperatively. During operation, 250 mL of pus was drained from the site of surgery in the anterior uterine wall by making a window in the suprapubic area. The uterus could not be visualized as was covered with omentum and bowel. Intraperitoneal drain (28 N) was put in the suprapubic area and douching was done with metrogyl injection for 5 days postoperatively. She became afebrile within 48 hours of pus drainage and was discharged on Day 26 postoperatively on injectable antibiotics Colistimethate sodium and Tigecycline) according to the pus culture sensitivity report and recovered well after completion of antibiotic treatment.

Discussion

We here reported a case (gravide 4, para 1: cesarean, abortion: 2) with CSP with a successful outcome. Cesarean scar pregnancy is a rare obstetrical complication which is diagnosed based on the finding of a gestational sac at the site of previous cesarean section with

an empty uterine cavity and cervix. Though rare at present, its incidence is rising rapidly due to rise in cesarean deliveries and use of transvaginal scar which allows early and accurate detection of CSP [5]. Approximately 30% of the cases are misdiagnosed that causes a large number of treatment complications. The counseling of patient and family is of utmost importance. Accurate identification of CPS must fulfill the important criteria including 1) empty uterine cavity and cervical canal, 2) gestational sac and the placenta very close to the anterior uterine surface within the scar or niche of previous cesarean delivery, 3) abundant blood flow around the gestational sac, sometimes mimicking an AV malformation, and 4) color flow signals between the posterior bladder wall and gestational sac and placenta [6]. In our case, all these criteria were fulfilled as stated in the investigations.

The treatment needs to be individualized as per the patient's age, number of previous cesarean deliveries, number of children, and expertise of the clinician. Management options of treatment are: either termination of pregnancy or continuation of pregnancy with possibility of delivering a live baby explaining the risk associated with morbid adherent placenta which may necessitate emergency hysterectomy [7,8]. In fact, there are no specific symptoms for CSP, bleeding accounts for < 50% of cases. We need to have a differential diagnosis of low placentation, inevitable abortion, and cervical pregnancy. There are 2 types of CSP: in the first type, embryo progresses in the direction of the uterine cavity; despite a great risk of placenta accreta and heavy bleeding, live birth might occur. In the second type, embryo implants deep down the cesarean scar and grows in the direction of the abdominal cavity and bladder, generally causing intraperitoneal haemorrhage and uterine rupture [9,10]. In our case, there was fetal growth retardation with myometrial invasion till the serosal layer over the scar with low-lying placenta 2.2 cm from the os.

Conclusion

Though there are many treatment modalities are available no optimal management has been established till date. Once the diagnosis of cesarean scar pregnancy is confirmed the patient needs to be offered evidence based counselling. Expectant conservative management is known to be risky due to severe hemorrhage and uterine rupture. The treatment needs to be individualized based on patient's age, parity, previous cesarean sections, expertise of the clinician managing the case and level of care provided in the hospital. We closely followed our case for a successful outcome and a healthy male child was delivered with cesarean section at Week 35.2. Our case report suggests that a successful pregnancy can be achieved in women with the uterine cesarean scar, though with thorough counselling and explaining all possible risks. Further analysis and additional studies need to be done for management guidelines of such rare case scenarios. Thus, such case reports articles give valuable evidence and help in establishing protocols for the same.

Competing Interests

The authors declare no competing interests.

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Author Contributions

Sobti N and Chandna A were the patient's gynecologist, reviewed the literature and contributed to manuscript drafting; Sobti N performed the analyses and interpretation, interpreted the imaging findings and responsible for the revision of the manuscript for important intellectual content; both authors issued final approval for the version to be submitted.

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