



Case Report:

Ruptured Caesarian Scar Ectopic Pregnancy

Authors

Sujatha BS, Department of Obstetrics and Gynecology,
Sunanda Bharatnur, Department of Obstetrics and Gynecology,
Samarth Virmani, Department of Obstetrics and Gynecology,
Shripad Hebbar, Department of Obstetrics and Gynecology,
Arijit Bishnu, Department of Pathology,
Kasturba Medical College, Manipal University, Manipal India- 576104.

Corresponding Address

Dr. Sujatha BS,

Department of Obstetrics and Gynecology,
Kasturba Medical College, Manipal University,
Manipal, India.

E-mail: bssujata@gmail.com

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Abstract: A pregnancy with implantation on the scar of a past caesarian section is uncommon. However, such pregnancies are on the rise due to the increasing number of lower segment caesarian section. One of the complications of such a pregnancy is uterine rupture in early pregnancy which can be life threatening to the patient. The following is a report of a patient who presented at 10 weeks of gestational age with features of hypovolemic shock and lower position of the gestational sac in relation to the uterus with normal fetal heart rate. The diagnosis of ruptured caesarian scar pregnancy was made only after laparotomy.

Key Words: Caesarian section, Ectopic, Scar pregnancy, Ultrasonography

Introduction:

Caesarean scar ectopic pregnancy (CSEP) is an unconventional, atypical form of abnormal implantation which can lead to complications of rupture of uterus and hemorrhage.¹⁻³ The increasing incidence of ectopic pregnancy in Asia pacific region including India could be due to increasing number of lower segment caesarean section (LSCS) in the recent past two to three decades.⁴ It is necessary to rule out other differentials on ultrasonography which differ from CSEP namely notable C-section scar tissue or an ongoing miscarriage.^{5,6} The present case report of CSEP highlights the unusual case followed by need for early detection and need for routine follow up.

Case Report

A 32 year old female with parity index of gravida 2, para 1, live 1 and past history of LSCS done 3 years ago, came at 10 weeks of gestation to the obstetrics casualty of Kasturba Hospital Manipal, with complaints of acute onset of lower abdominal pain which gradually progressed and increased in intensity over a period of one day. She complained of associated dizziness present throughout the day without any aggravating or relieving factors. There was no history of abdominal distension or vomiting. Her current pregnancy had been diagnosed by Urine Pregnancy Test (UPT) at 45 days of

amenorrhea. However, she had not undergone an ultrasound scan following a positive UPT test, and this was her first visit to the hospital in her current pregnancy. Patient denied any significant medical or surgical history.

Her pulse at initial evaluation was 146 beats/min, respiratory rate at 18 breaths/min, blood pressure measured 88/56 mmHg, and oxygen saturation was 100% at room air. Patient was immediately resuscitated with intravenous fluids. Examination of cardiovascular and respiratory system was normal. On abdominal examination, there was no abdominal distension and the abdomen was tender on palpation. Blood investigations showed hemoglobin of 9 g/dl and β - human chorionic gonadotropin levels of 65563 mIU/ml. Her viral markers were negative. A transabdominal ultrasound was done which revealed significant free fluid in the abdominal cavity (paracolic gutter and Morrison's pouch). A regular gestational sac with live fetus of Crown Rump Length (CRL)= 42mm was seen on the scan in the lower part of uterus near uterine isthmus, corresponding to approximately 10 weeks of gestational age. Due to uncertainty in diagnosis, a diagnostic paracentesis was done which revealed a bloody tap. The condition of the patient continued to worsen (BP - 70mmHg systolic, 50mmHg diastolic and pulse of 150 beats/min) in a short period of time, hence she was rushed to the operation theatre for a laparotomy.

Intraoperatively, about 1.8 litres of hemoperitoneum was seen, along with a rent of 5 cms at the site of previous scar on the anterior uterine wall. A fetus with intact gestation sac was seen protruding through the rent in the abdominal cavity, right next to the site of the ruptured scar (Fig. 1, 2). Bilateral uterine artery ligation with repair of ruptured scar was done. The specimen was sent for histopathological examination, and the findings were found to be consistent with products of conception (Fig.3, 4).



Fig.1: Fetus with intact gestation sac seen protruding through the rent in the abdominal cavity



Fig.2: Fetus with intact gestation sac

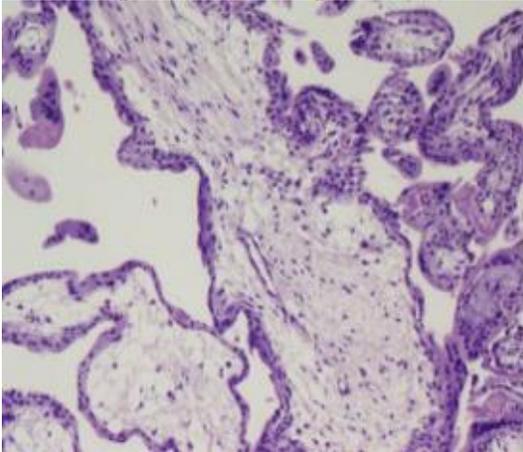


Fig.3: H&E at 400 x showing villi lined by cytotrophoblast and syncytiotrophoblast

Postoperatively patient received 2 pints of packed red blood cells. Her blood test were routinely monitored. Postoperative recovery period was uneventful hence discharged on tenth day after surgery. Patient was asked to follow up at obstetrics outpatient department at 6 weeks. When patient had come for follow up, she had resumed her menstrual cycle, and a transvaginal sonography (TVS) showed intact endometrial cavity.

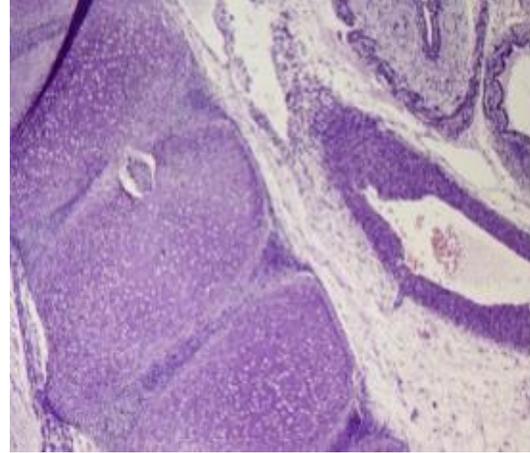


Fig.4: H&E at 200x showing fetal parts with presence of immature cartilage

Discussion

Ectopic pregnancy is quite rare as it is known to occur in 1% of all pregnancies, however the rate of such pregnancies is on the rise because of the increasing rates of LSCS.⁷ Approximately 751 cases of caesarean scar pregnancies have been reported till date⁸ but very few cases have been reported in Indian scenario. The mechanism of a caesarean scar pregnancy is believed to involve movement of blastocyst into the myometrium via a microscopic channel between the endometrial canal and caesarean section scar.⁹ It can also occur due to hysterotomy, myomectomy, dilatation and curettage.¹⁰ Ash et al, mentioned that a majority of these are diagnosed in the 1st or early 2nd trimester, with the time gap between previous LSCS and diagnosis of CSEP ranging between 6 months to about 12 years.¹¹ Our patient was diagnosed 3 years following LSCS, thus making our patient's finding consistent with this observation.

Patients with intact ectopic scar pregnancies either have painless bleeding per vagina or lower abdominal pain or asymptomatic.^{12,13} Our patient had come with acute lower abdominal pain but absence of vaginal bleeding. However, the most catastrophic event is hypovolemic shock when uterine dehiscence occurs.¹⁴ It is often difficult to diagnose on ultrasonography because the findings may resemble a cervical ectopic pregnancy due to the lower placement of the gestational sac with relation to the uterus. It can also be diagnosed by a color flow doppler and TVS, which has a sensitivity of 86.4% in diagnosis of the condition.¹⁵ CSEP is occasionally wrongly diagnosed as incomplete abortion managed with curettage which can in turn lead to hemorrhage.¹⁶ Magnetic resonance imaging, a better diagnostic tool which precisely detects the exact position of pregnancy but costlier than ultrasonography.¹⁷

A caesarean scar pregnancy should be terminated as soon as it is diagnosed as failure to do so can result in a high risk of obstetric hemorrhage, requiring emergency hysterectomy and thus losing fertility potential.¹⁸ The treatment modality is decided based on factors including gestational age, hemodynamic stability, expertise of the endoscopist, future pregnancy plans, and practicability of follow-up for serology and imaging.¹⁹ Options for the termination of an uncomplicated ectopic scar pregnancy are curettage, hysteroscopy, systemic methotrexate, laparotomy, hysterotomy and uterine artery embolization.²⁰

Hysterectomy is the treatment of choice in patients with ruptured uterus with scar rupture extending to cervix, uncontrollable bleeding or failed conservative management.²⁰ In our patient, laparotomy was decided as

patient was hemodynamically unstable. The uterus was conserved, surgical excision of caesarean scar and scar repair was done in two layers, since the scar was away from the cervix and the patient wanted to have another pregnancy in the future. Prophylactic bilateral ligation of uterine arteries was also done to prevent hemorrhage in the near future. Similar cases have been reported in the past and the same treatment approach was adopted.^{20,21}

Few case series recommended the avoidance of pregnancy 1 or 2 years after scar ectopic pregnancy.²¹ Our patient was advised to avoid conception for 2 years. In subsequent pregnancies, recurrent scar implantation may occur.²² So early ultrasound should be performed in order to establish the location of implantation. Few cases have been reported with successful term pregnancy after a caesarean scar pregnancy.²² However; those pregnancies are at high risk for uterine rupture (resulting in maternal or fetal death) and placenta accrete,²³ thus making it essential to follow up closely in the subsequent pregnancy. Once the fetal lungs are well developed, early caesarean section is advisable in pregnancy following a caesarean scar pregnancy, to avoid such complications.²⁴

Conclusion

The occurrence of a CSEP in a female with past history of LSCS is a rare phenomenon. However, this can result in life threatening uterine rupture as a complication. The doctor should bear in mind that such pregnancies may occur especially in women with low lying gestational sac in previous scarred uterus and should be diagnosed and managed at the earliest in order to prevent such a complication.

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