

A Birth in a Scar: A Case Report on Caesarean Scar Pregnancy and its Surgical Management

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Abstract

Caesarean scar pregnancy is a rare complication. There is a increase in its incidence parallel to the increase in the incidence of primary caesarean section rate. Symptoms include pelvic pain, vaginal bleeding and many are asymptomatic. Early diagnosis is the main stay. Choice of investigation is Ultrasound. MRI will confirm the diagnosis. Treatment depends on the case presentation. Caesarean scar pregnancy may result in serious life threatening complications, unless managed promptly.

Keywords: Ectopic pregnancy, Caesarean scar pregnancy, Uterine rupture, Methotrexate, Laparotomy, Laparoscopy

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Introduction

Caesarean scar pregnancy is a rare type of ectopic pregnancy, implanted in the myometrium and at the previous caesarean section scar fibrous tissue.[1,2] It has been increasingly diagnosed all over the world with the increasing caesarean section rate. It is life threatening if not diagnosed early and managed aggressively, results in uterine rupture, haemorrhage, disseminated intravascular coagulopathy and maternal death.[2,3,4] It is also seen with in the scarred tissue followed by hysterotomy, dilatation and curettage, abnormal placentation, myomectomy, metroplasty, hysteroscopy and manual removal of placenta.[4] Incidence is 1:2000 pregnancies, with globally increasing the primary caesarean rates by 18.6% of all

births.[4] Two types of scar ectopic pregnancies have been recognised. Type 1 or Endogenous type develops in the myometrium and grows towards the uterine cavity, Type 2 or Exogenous type progresses exophytically towards the uterine serosa.[4] Type 2 is more life threatening compared to Type 1. Patient can be asymptomatic or may present with pelvic pain, vaginal bleeding. Early diagnosis can be achieved by ultrasound.[5] Advances in the ultrasound using a new sonographic sign, the cross over sign(COS), have led to an increase in the diagnosis of Caesarean scar pregnancy which is usually challenging.[6] Multiple treatment modalities have been proposed, due to the association with Morbidly adherent placenta it raises the dilemma to

terminate or treat therapeutically.[7] Conservative management includes systemic methotrexate, local embryocides or both. Surgical management to be offered to patients who are haemodynamically unstable, failed medical treatment. It includes D&C, hysteroscopy, laparoscopy, laparotomy and uterine artery embolisation.[8]

Case Report:

We present the case of a 31 year old lady, she attended our antenatal clinic at 8 weeks of amenorrhea. Pregnancy was confirmed by urine β -hcg testing. She had no complaints. She had one previous caesarean section 9 years ago the indication being failure to progress. She had no history of

miscarriages or ectopic pregnancies. She had history of secondary infertility, was evaluated and she was put on ovulation induction for one cycle and she conceived thereafter. On examination, her temperature was 98° F, pulse rate of 84 beats/min and normal blood pressure of 110/70mmHg. Her abdomen was soft, non-tender. Her cardiorespiratory and neurological systems were normal. Lab investigations revealed Hb- 11.1g/dl. Then the patient underwent early pregnancy ultrasound which picked up a single intrauterine gestational sac with fetal pole with no cardiac activity noted on the anterior myometrium at the scar region with empty uterine cavity. The crown rump length was 1.2mm, consistent with the gestational age of 7 weeks.

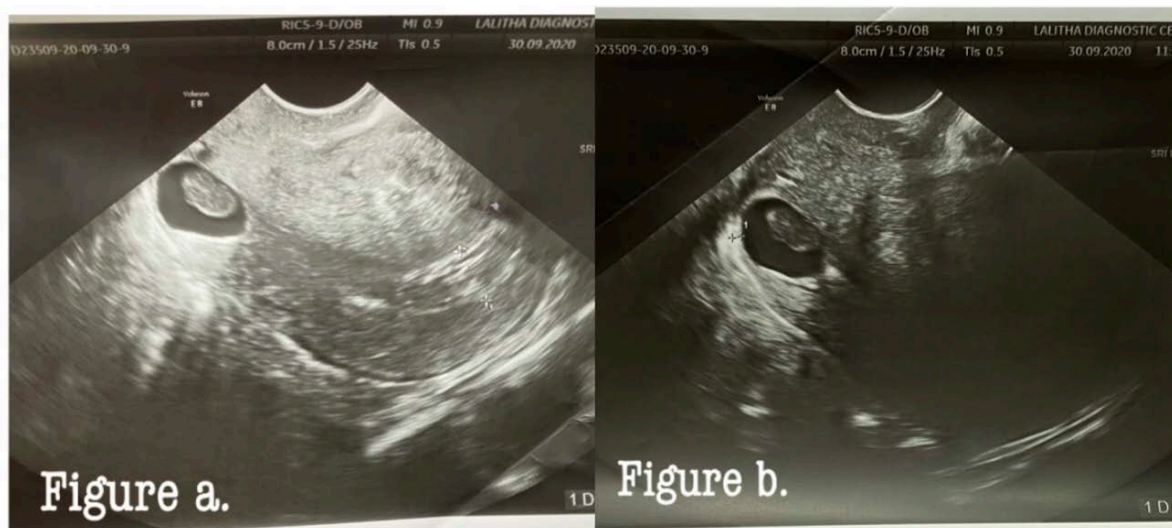


Figure a & b: Ultrasound showing a single intra uterine gestational sac with fetal pole with no cardiac activity on the anterior myometrium at the scar region with empty uterine cavity corresponding to 7-8 weeks of gestation.

As the findings were suggestive of scar pregnancy, patient and her husband was counselled regarding the management options of ectopic pregnancy including the surgical treatment with risks and complications of each choice. She chose to undergo laparotomy with surgical resection of scar pregnancy followed by vacuum aspiration. Intraoperatively, there was a bulge at the right side on the anterior uterine wall at the level of previous scar. A small incision was given over the bulge, sac with

fetus intoto was extracted out along with other products of conception. Vacuum aspiration was done under vision to complete the process of evacuation of the uterine cavity. The edges of the scar were opposed and sutured with vicryl 1-0 with interrupted sutures. Haemostasis secured. Patient withstood the procedure well. Postoperatively, she was kept on IV antibiotics and analgesics. Her postoperative period was uneventful and she was discharged on day 4 after surgery.

Specimen was sent for histopathology and confirmed the presence of decidua and chorionic villi. She was advised abstinence for 6 weeks and to plan next pregnancy only

after 6-12months. She was well and had no problems related to the surgery during her followup.

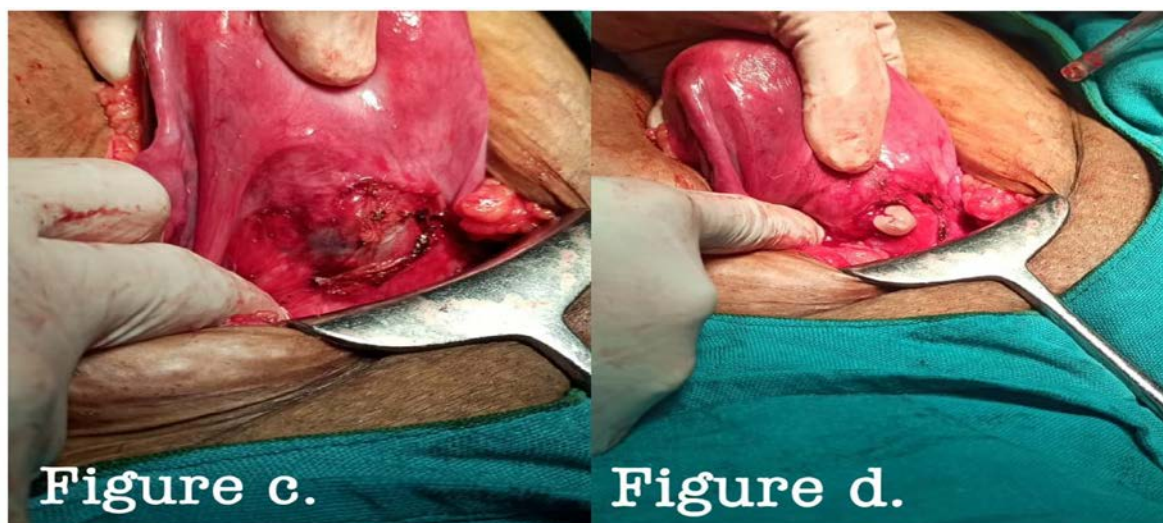


Figure C : Bulge on the anterior surface of the uterus on the right side showing scar pregnancy.
Figure d : Sac along with fetus extracted out at through the scar region

Discussion:

Caesarean scar pregnancy is a rare form of ectopic pregnancy. The exact cause of caesarean scar pregnancy is unknown, but its occurrence could be due to the implantation of the blastocyst invading the pre-existing scar defect or a microscopic dehiscence tract in relation to the previous surgeries on the uterus.[9,10] In CSP, the gestational sac is totally surrounded by the myometrium and the fibrous tissue of the scar which is separate from the endometrial cavity.[2,11] Because of varied clinical presentations it has to be diagnosed using imaging techniques. Sonography is the first choice of diagnosis. The diagnostic criteria based on USG includes:[2,4,5,9,10,11]

- a) Presence of gestational sac in the anterior part of the lower uterine segment.
- b) An empty uterus and cervical canal
- c) Absence of myometrium between the bladder wall and gestational sac
- d) Myometrial layer between the bladder wall and gestational sac is present or absent

- e) Increased peritrophoblastic flow or vascularity at the area of caesarean /hysterotomy scar.

Presence of any adnexal mass or free fluid in the pouch of douglas should raise a high index of suspicion of ruptured scar pregnancy. Diagnosis depends on the symptoms, clinical presentation, history of previous scar and procedures, serum β hcg level, ultrasound.[2,3,9] Transvaginal ultrasound with colour Doppler may help as an additional tool to enhance the diagnostic capability.[9] MRI scan can also be used as an adjunct to ultrasound, if the findings were inconclusive for the confirmation of the diagnosis as it depicts excellent soft tissue resolution.[2,5,10] It also has a better assessment in adjacent organs involvement like myometrial invasion and bladder involvement.[5] Early diagnosis will help in timely effective management. Management of CSP has to be individualised considering the patient's preference and desire for future fertility, gestational sac diameter, estimated gestational age and haemodynamic stability

of the patient.[10] Termination of pregnancy in the first trimester is strongly recommended as there is high chances of uterine rupture, massive bleeding and other life threatening complications.[3] Conservative or medical management includes systemic methotrexate, local embryocides or both. Surgical management to be offered to patients who are dynamically unstable or patients who have failed with medical management, it includes D&C, hysteroscopy, laparoscopy, laparotomy and embolisation or ultrasound guided injection of methotrexate in the sac.[2,4,5,9,11] Conservative management with methotrexate is not effective due to poorly vascularised fibrous scar with poor drug penetration and absorption of the gestational tissue is difficult.[1,2,3,6,7,9,11] It requires close follow up to avoid disastrous complications like uterine rupture.[3,4] Surgical management is successful in 96%, definitive treatment as it removes the gestational sac under direct vision with careful evacuation and gives a possibility to repair the uterine scar defect.[2,3,4,10,11] According to Fylstra's review, termination of the pregnancy by either laparotomy or hysterotomy with repair of the uterine scar is the best treatment for the caesarean scar pregnancy.[3] We chose laparotomy as it was our patient's choice also as it gave us better approach and control of haemorrhage. Risk of recurrent scar ectopic pregnancy is low, 3.2-5%. A subsequent pregnancy to be avoided for more than 3 months and probably 1-2 years, the pregnancy followed by caesarean scar pregnancy, early caesarean section to be done as soon as the fetal lungs become mature to avoid the risk of spontaneous uterine rupture.[9]

Conclusion:

Caesarean scar ectopic pregnancy is a dangerous and life threatening disorder with increased incidence in the recent times. It poses a diagnostic challenge, both

obstetricians and radiologists to maintain a high index of suspicion during imaging and follow up as it may result in serious complications. Treatment of caesarean scar pregnancy is challenging as the definitive treatment protocols still not established. The type of treatment method depends on the factors like size of pregnancy, presence or absence of uterine continuity, β hcg level, possibility of further fertility and patient's haemodynamic state.

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