

# Cesarean Scar Pregnancy Resulting in Live Birth: A Case Report

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## 2. Key words

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## 1. Abstract

Caesarean Scar Pregnancy (CSP) is a rare form of ectopic pregnancy. The numbers of cesarean scar pregnancies have increased over the last few decades owing to increasing number of C section performed and also to increasing awareness and early ultrasound diagnosis. CSP have a high risk of uterine rupture and life-threatening hemorrhage, the pregnancy should be terminated once confirmed. There are very few cases in the literature reporting live birth as a result of such pregnancies. Here, we present a 34-years old, gravida 5 women with previous caesarian delivery. At six weeks, a transvaginal scan showed the presence of an ectopic pregnancy within the C section scar, despite this finding the pregnancy was continued to third trimester. This report suggests that successful pregnancy outcome is possible in some women with uterine cesarean scar pregnancy, but further analysis and more studies are required in order to describe the optimal protocol of expectant management of CSP.

## 3. Introduction

A cesarean scar pregnancy is whereby the gestational sac is fully or partially implanted within the scar caused by a previous caesarean section. The incidence of CSP ranges from 1/1800 to 1/2500 of all pregnancies [1]. It is the rarest kind of ectopic pregnancy and may lead to severe complications, such as uterine disruption and severe hemorrhage [2]. Cases of expectant management lasting into the third trimester are likely to have morbidly adherent placenta and may require caesarean hysterectomy. In rare circumstances, especially in women with a CSP growing towards the uterine cavity who decline termination of pregnancy, an expectant approach may be undertaken as a compromise. However, the risks of uterine rupture, massive hemorrhage and a possible hysterectomy at any time during the pregnancy should be clearly discussed and documented. The pregnancy should be closely monitored and planned caesarean delivery should be offered [1].

Herein, we report a case of CSP that was not terminated in the first trimester because of the patient's strong desire to continue the pregnancy. The outcome was viable birth after 33-weeks.

## 4. Case History

A healthy 34-year-old woman, gravida [5], para [4] (all caesarian deliveries, first two cesareans at term, third cesarean done at 32 weeks for preterm labor, fourth cesarean was classical at 37 weeks, three years back, as patient had dense adhesions obliterating lower uterine segment) was admitted through emergency, with pain lower abdomen and vaginal bleeding at 6weeks and 3days of gestation.

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On examination, she had a normal blood pressure of 113/70 mmHg and a pulse rate of 98 beats/min. Her body temperature was 37.5 °C. Her abdomen was soft and not tender. Vaginal inspection revealed mild bleeding and closed cervix. Ultrasound evaluation revealed a low implantation of gestational sac in the lower anterior wall causing thinning of myometrium. Diagnosed as Scar pregnancy of 6weeks of gestation, with normal fetal pole and cardiac activity (Figure 1). Patient was explained in detail regarding diagnosis, possible consequences and management options. Termination of pregnancy offered with the options of, medical management with Methotrexate having low success rate with a viable fetus and surgical management.



**Figure 1:** Transvaginal Ultrasound showing single intra uterine gestational sac in the lower uterine segment in the anterior wall causing thinning of myometrial wall suggestive of scar pregnancy.

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The patient was explained regarding risk of uterine rupture, placenta accreta, placenta percreta, and possibility of hysterectomy, in case of continuation of pregnancy. After extensive discussion about all factors, patient decided to continue the pregnancy despite our recommendation of termination. Therefore, she was discharged home with regular follow up in the clinic. Ultrasound anomaly scan was done at 22weeks, which revealed low-lying placenta. The pregnancy remained uneventful until 33weeks, then she was admitted with a minor episode of ante partum hemorrhage. She was admitted and managed with betamethasone in divided doses. In view of further episodes of ante partum hemorrhage, an emergency caesarian section was done at 33weeks, after arranging placental care bundle. Classical cesarean section with, incision on the upper part of the uterus was made. Lower segment obscured by dense abdominal adhesions to lower part of the uterus, only upper part of the uterus was visible. Baby delivered safely with APGAR score of 8 and 9, at 1 and 5 minutes. Placenta was completely covering the OS. It started separating spontaneously. Placenta was separated partially from the lower segment of the uterus and bleeding observed from the placental bed. In view of continuing hemorrhage, decision was taken by two consultants to proceed with hysterectomy. After hysterectomy, bilateral internal iliac artery ligation was done by vascular surgeon to prevent further bleeding. The patient received 8 units of packed red cells, 6 units of cryoprecipitate and 10units of platelets. The patient was transferred to ICU for 2 days and then she was transferred to postnatal ward. She was discharged in stable condition on 8th post-operative day. She attended post natal clinic at 6weeks, for her routine post natal visit and she was stable.

## 5. Discussion

Caesarean scar pregnancy is defined as implantation into the myometrial defect occurring at the site of the previous uterine incision. The prevalence of caesarean scar pregnancy is estimated to be approximately 1 in 2000 pregnancies and these pregnancies may be ongoing potentially viable pregnancies or miscarriage within the scar [3]. Its exact pathogenesis is unknown, but attributing factors have been thought to include endometrial and myometrial disruption or defects, or microscopic isolation between the cesarean scar and the space of the endometrium and implantation of the conceptus in the myometrium through the tract by the invading blastocyst [4, 5].

The natural history of this condition remains unclear, it may result in a pregnancy that loses its vascular connections while growing, thus causing a spontaneous abortion, or it may continue to grow gaining new stronger vascular connections ending into a low-lying adherent placenta with or without invasion of surrounding organs [6]. Early diagnosis is important to avoid serious complications. Women with CSP often present with slight vaginal bleeding with mild abdominal discomfort [7], this was the case in our patient.

The diagnosis is made mostly on trans vaginal ultrasound. The diagnostic criteria includes, empty uterine cavity, gestational sac located anteriorly at the level of the internal os, embedded at the site of the previous lower uterine segment caesarean section scar, thin or absent layer of myometrium between the gestational sac and the bladder, evidence of prominent trophoblastic/placental circulation on Doppler examination and empty endocervical canal [3].

Based on imaging findings and progress reports during pregnancy, CSP is divided into two types. In type 1CSP (endogenic type), implantation occurs on the scar site and the gestational sac grows toward the cervico-isthmic or uterine cavity. Type 2 CSP (exogenic CSP), occurs when the gestational sac is deeply embedded in the scar and the surrounding myometrium, and grows toward the urinary bladder. Although the exogenic type of CSP carries a greater risk of earlier uterine rupture, several cases of viable birth following the diagnosis of the endogenic type of CSP have been reported [8, 9]. Our case was an endogenic type of CSP, therefore it could continue until 33 weeks of gestation without uterine rupture.

There are various modalities for the management of CSP. These include expectant management, intramuscular or intralesional injection of methotrexate and surgical treatment [10]. Our patient was counselled in detail regarding all these options and was offered termination of pregnancy. However, she decided to continue the pregnancy after considering all risks and complications.

Expectant management of CSP that leads to live birth at the late preterm period is known to be associated with severe maternal morbidity such as massive hemorrhage, uterine rupture, or hysterectomy. The patient had massive hemorrhage requiring multiple blood transfusions and other blood products. She also underwent cesarean hysterectomy in view of adherent placenta previa and massive hemorrhage.

In future pregnancies, the risk of recurrence of CSP is higher [11]. There is the need to educate women at risk about the need to report early when pregnant. Therefore there is a need for early ultrasound scan in the subsequent pregnancies to rule out recurrence [9]. This was communicated to the patient before she was discharged home.

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