DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20233660

# **Case Report**

# Caesarean scar pregnancy: diagnostic dilemma

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Received: 08 September 2023 Accepted: 03 October 2023

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#### ABSTRACT

Caesarean scar pregnancy is a rare but life-threatening type of ectopic pregnancy if not accurately diagnosed on time. With increasing caesarean section rates, caesarean scar pregnancy is bound to increase. In this report, we describe a case of a woman with pregnancy developed within previous caesarean scar (Type-I, cervico-isthmic type) and successfully treated with medical management. The diagnosis of pregnancy on caesarean scar is easily made by transvaginal ultrasound and color Doppler flux. Unfortunately in some cases, as well as in our case, the diagnosis was not simple. Infact, in our case twin gestation was the initial diagnosis, by serial Beta HCG values and transvaginal ultrasound by an expert sonologist the diagnosis was made. We were successful in treating this rare form of ectopic pregnancy without any maternal morbidity with medical management alone. We report this case to highlight the importance of knowing the ultrasound criteria to diagnose Caesarean scar pregnancy, so that catastrophies can be prevented.

Keywords: Caserean scar pregnancy, BetaHCG, Pseudo gestational sacs

### INTRODUCTION

Caesarean scar ectopic pregnancy is a rarest form of ectopic pregnancy defined as implantation into the myometrial defect in the previous uterine incision.<sup>1</sup> The incidence has been reported to be 1:1800-1:2216 and accounts for 6.1% of all ectopic pregnancies.<sup>2</sup> Though rare, the incidence of caesarean ectopic pregnancy has also increased in parallel with increase in caesarean section rates.<sup>1</sup> It has been attributed to life threatening complications if not diagnosed early and managed aggressively. The diagnosis is often difficult and a false negative diagnosis may result into major complications.<sup>3</sup> We presented a case of caesarean scar pregnancy who was misdiagnosed initially as multi fetal gestation. An unusual presentation of caesarean scar pregnancy.

### **CASE REPORT**

We presented a 34-year-old gravida 2 para 1 live 1, last child birth 8 years, conceived with first cycle of follicular study without ovulation induction. Patient was a known case of fibroid uterus with adenomyosis. Pregnancy confirmed with baseline serum beta HCG and small gestational sac in USG at 6 weeks 4 days.

At 7 weeks 3 days in dating scan there was two tiny sac within endometrium, early intrauterine pregnancies, early pregnancy failure, pseudo gestational sacs. There was 22.23% increase in serum beta HCG level repeated at 48hrs interval. Repeat serum beta HCG level after 48 hours showed 3.12% increase. Ultrasound was repeated in a fetal medicine center, which was suggestive of twin gestation. Serum beta HCG levels were suggestive of ectopic

pregnancy but and ultrasound was suggestive of twin gestation.

Since both were contradictory to each other, USG was done with the inhouse sonologist emphasizing the contradictory picture. This time the transvaginal ultrasound confirmed the diagnosis of caesarean scar pregnancy with adenomyotic changes (which probably could have been misinterpreted as multifetal gestation) and fibroid uterus.



Figure 1: Gestational sac in Caserean scar area.

Patient was treated with single dose injection methotrexate intramuscularly. Following methotrexate injection 59% fall in beta HCG noted.

#### DISCUSSION

There are many theories that explain the pathogenesis of caesarean ectopic pregnancy. One theory is that blastocyst may implant in a microscopic dehiscent tract in a scar in the uterus. This scar may be of a caesarean section, any other uterine surgery like myomectomy or even manual removal of placenta. Another theory of intramural implantation is after in vitro fertilization and embryo transfer even in absence of uterine surgery history. A uterine scar is deficient in decidua basalis or contains a faulty layer of fibrinoid degeneration. This ectopic pregnancy is not surrounded by decidualized endometrium hence implants into fibroid scar tissue and myometrium.<sup>3</sup>

Two different types of scar ectopic pregnancies are identified. Type I is caused by implantation in the prior scar with progression towards the cervico isthmic (in prior caesarean section) space or the uterine cavity. Type II is caused by deep implantation into scar defect with infiltrating growth into the uterine myometrium and to uterine serosal surface which may result into uterine rupture and massive haemorrhage in first trimester of pregnancy which is most dangerous.<sup>4</sup>

Atypical cases of scar pregnancy can be easily misdiagnosed due the management protocol majorly includes medical, surgical, or combined approach. Selection of which may depend on patient's presenting complaint, fertility needs, type of CSEP, initial  $\beta$ -hCG levels, and expertise available to lack of awareness and a poor index of suspicion.<sup>5</sup>

Transvaginal ultrasonography with Doppler is the primary imaging modality for caesarean scar pregnancy. MRI can be used to confirm the diagnosis.

Ultrasound criteria to diagnose caesarean scar pregnancy as described in RCOG guidelines:

- 1. Empty uterine cavity.
- 2. Gestational sac or solid mass of trophoblast 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.

Along with these criteria: Closed internal os (To rule out threatened abortion), negative sliding sign helps to rule out other differential diagnosis.

A high velocity with low impedance peri-trophoblastic vascular flow clearly surrounding the sac is seen in the Doppler examination.<sup>6</sup>

The management protocol majorly includes medical, surgical, or combined approach. Selection of which may depend on patient's presenting complaint, fertility needs, type of caesarean, initial  $\beta$ -hCG levels, and expertise available. Several types of conservative treatment have been used to treat caesarean scar pregnancy, but no management protocol has been established.<sup>7</sup>

## CONCLUSION

Caesarean scar pregnancy has been often misdiagnosed as threatened abortion, incomplete abortion, cervical pregnancy. High index of suspicion, correct diagnosis and decision about treatment modality is reduces the complication. We recommend that all women with a history of caesarean section are referred for an early viability transvaginal sonography with an appropriately skilled sonographer or gynaecologist to rule out a diagnosis of caesarean scar ectopic.

Funding: No funding sources Conflict of interest: None declared Ethical approval: Not required

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**Cite this article as:** Rajeswari KSR, Anushri M, Shaunthani P. Caesarean scar pregnancy: diagnostic dilemma. Int J Reprod Contracept Obstet Gynecol 2023;12:3692-4.