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**Case Report**

# Successful conservative management of viable caesarean scar pregnancy with systemically administered methotrexate followed by ultrasound guided ethanol ablation of gestational sac: a rare case report

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## ABSTRACT

The incidence and diagnosis of caesarean scar pregnancy is on rise because of rising caesarean section rates. Though many modalities are available for its management, none seems to be superior and data regarding them are also lacking. Here we are presenting a rare case report of successful conservative management of viable caesarean scar pregnancy with systemic methotrexate followed by ultrasound guided ethanol ablation of gestational sac.

**Keywords:** Caesarean scar pregnancy, Serum beta human chorionic gonadotropin, Methotrexate, Ethanol ablation

## INTRODUCTION

Caesarean scar pregnancy is the implantation of gestational sac within the myometrium of previous caesarean delivery.[1] Incidence of caesarean scar pregnancies are gradually increasing from 1 in 2000 pregnancies to 1 in 500 because of increasing rate of caesarean deliveries.[2] Various modalities are available for its management but none seems to be superior and data regarding each modality is also sparse.[3]

## CASE REPORT

32 years old G3P2L2 with previous 2 caesarean sections, last child birth 2 years back, with no history of sterilisation procedures in the past and now with 2 months of amenorrhea came with complaints of spotting per vaginum for 2days. On examination, her vitals were stable and on physical examination, abdomen was soft and non-tender. Perspeculum examination was normal. Bimanual pelvic examination revealed anteverted bulky uterus with cervical motion tenderness and minimal right fornicial tenderness. There was no bleeding per vaginum. With the suspicion of tubal ectopic pregnancy, urgent transvaginal ultrasound and serum beta HCG (Human chorionic gonadotropin) was done. Transvaginal ultrasound revealed a gestational sac of 44×16 mm with crown lump length 9 mm corresponding to 6 weeks 6 days of gestation with good fetal heart rate in the lower part of the anterior wall of uterus with thin rim of cleavage plane between gestational sac and uterine myometrium. Sub-chorionic hematoma present. Bilateral adnexa was normal. Differential diagnosis of caesarean scar pregnancy, cervical pregnancy, threatened abortion was made. Beta HCG- 43,476.3 mIU/ml. MRI abdomen and pelvis done and diagnosis of caesarean scar pregnancy of gestational sac 4.4 cm with volume 10 cc was confirmed. After discussing with the patient about various modalities of treatment, medical management with methotrexate was selected. 2 doses of methotrexate intramuscularly was given on day 1 and 4. Follow-up beta HCG was 48,142.6 mIU/ml. Repeat USG revealed persistent gestational sac of 3.4 cm with persistent fetal activity and decided for ultrasound guided ethanol ablation of sac. Under local anaesthesia, under transabdominal ultrasonographic guidance, using 22G spinal needle, 10cc of ethanol was injected in and around the trophoblastic region without rupturing the sac and the end of the procedure, both iliac

artery shows normal flow. On serial follow up, beta HCG was falling with last value of 2475.1 mIU/ml, 2 weeks after the procedure and USG also revealed empty uterine cavity and cervical canal. Patient on regular follow up with estimation of beta HCG two weekly once.

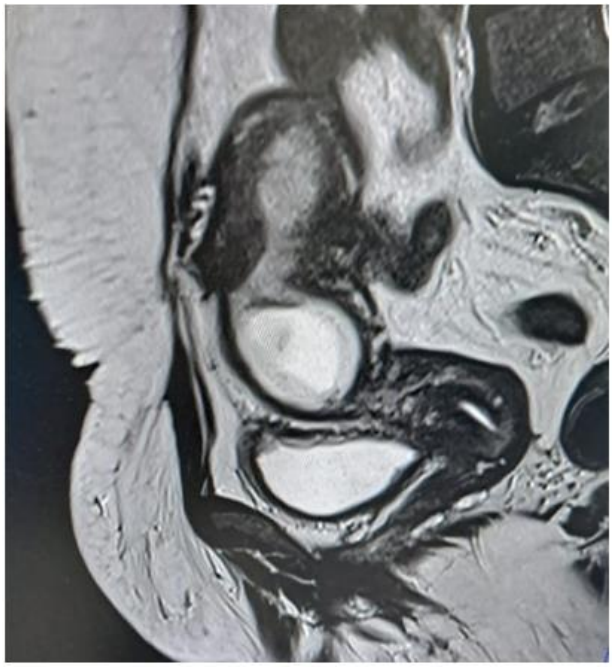

**Figure 1: MRI pelvis showing a caesarean scar pregnancy with gestational sac of 4.4 cm.**

## DISCUSSION

Caesarean scar pregnancy is an ectopic pregnancy wherein the gestational sac is implanted within the myometrium of previous caesarean scar and well separated from the endometrial cavity and endocervical canal.

As the rates of caesarean section are increasing nowadays, incidence of caesarean scar pregnancy is also on the rise from 1 in 2000 pregnancies to 1 in 500 previous caesarean section pregnancies. It has not been well established whether the risk increases with the number of caesarean section pregnancies or it is influenced with the type of caesarean section incision such as lower segment or upper segment incision.[2]

Although 40 percent are asymptomatic and diagnosed during incidental ultrasonographic examination, the remaining present with abdominal pain and bleeding per vaginum.

Transvaginal ultrasonography is the initial method of diagnosis. Diagnostic criteria in TVUS for caesarean scar pregnancy includes: (1) empty endometrial cavity and endocervical canal; (2) placental mass or gestational sac embedded in the hysterotomy scar niche; (3) thin myometrial rim between the sac and bladder; (4) inability to displace the gestational sac by slightly applying pressure with the transvaginal probe indicating implantation; (5) Doppler ultrasound revealing high velocity with low impedance peritrophoblastic vascular flow, clearly surrounding the gestational sac.[4]

Differential diagnosis includes spontaneous expelling abortion or a cervicoisthmic implantation.[1] In case of inconclusive diagnosis with ultrasonography, MRI is used for the confirmation.

Though expectant management can be tried in selected cases, it is associated with the risks of hemorrhage, uterine rupture or dehiscence, placenta percreta and hysterectomy.[3] Among all, 60% end up in hysterectomy though not seen in early pregnancies without cardiac activity.[1] In early pregnancies without cardiac activity, only 30% required medical or surgical management. Other surgical interventions include laparoscopic uterine isthmic resection, transvaginal resection of isthmus through an anterior colostomy, uterine artery embolisation followed by D and C with or without hysteroscopy, hysteroscopic resection. In case of family completed individuals, hysterectomy may be done electively.

Medical management can be considered in those desiring pregnancy. Administration of methotrexate locally or systemically or systemic plus local MTX injection are the available options which is having success rates of 60%, 56%, 77% respectively.[2] Transvaginal absolute ethanol injection around the gestational sac is another option which is having good clinical effects and fewer complications.[5] But large studies regarding its safety and efficacy is lacking.

## CONCLUSION

This case report demonstrates that viable CSP can be treated safely and successfully by systemic methotrexate injection followed by ethanol ablation of sac thus obviating the need for hysterectomy. More studies are required to rationalise the treatment modalities on this condition.

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