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**Case Report**

# Caesarean scar ectopic pregnancy and laparoscopy: a rendezvous

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## ABSTRACT

Caesarean scar pregnancy (CSP) is defined as an implantation of pregnancy in a fibrous tissue scar of a previous caesarean section, one of the rarest forms of ectopic pregnancy which can be life threatening. The incidence of CSP is steadily rising in view of increasing caesarean section rates. A very high index of clinical suspicion is required for the diagnosis and further management. As with other ectopic pregnancies, caesarean scar ectopic pregnancy pose a greater risk for maternal haemorrhage and ultimately maternal mortality. Through this case report, we demonstrated the laparoscopic management of a CSP.

**Keywords:** Caesarean scar pregnancy, Fibrous tissue scar, Laparoscopic management

## INTRODUCTION

The word 'ectopic' means 'out of place'. The blastocyst normally implants in the endometrial lining of the uterine cavity. Implantation anywhere else outside uterine cavity is considered as an ectopic pregnancy.[1]

The first known description of an ectopic pregnancy is by albucasis in the 11th century. But Larsen and Solomon reported the first case of caesarean scar pregnancy in 1978. Incidence of CSP has been reported to be 1 in 1500 to 1 in 2500 pregnancy.[2]

With the help of transvaginal ultrasonography, early detection is possible, mean gestational age at diagnosis being 7±2.5 weeks within interval between last caesarean section and CSP being 6 months to 12 years.[3]

### *Sites of implantation in ectopic pregnancy*

Implantation occurs at uterine (cervical, angular, cornual, caesarean scar) or extrauterine (tubal, ovarian, abdominal). There are two types of caesarean scar pregnancy: (a) type I/endogenic= implantation occurs on scar and the g-sac grows towards the cervico-isthmic or uterine cavity; (b) type II/exogenic= g-sac is deeply embedded in scar and the surrounding myometrium and grows towards the bladder.[4]

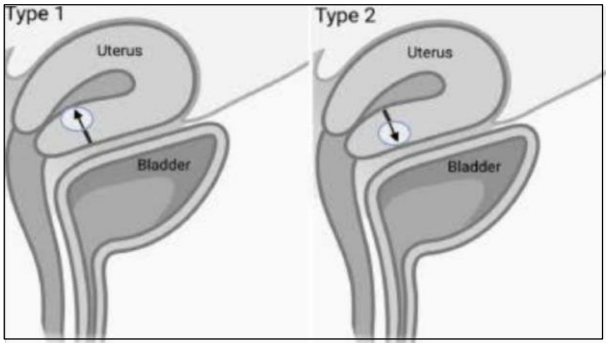


**Figure 1: Two types of caesarean scar pregnancy.**

Early intervention prevents severe complications such as uterine rupture, haemorrhage, and hypovolemic shock. Various treatment modalities include conservative management with intrasac or intralesional injection of

methotrexate, potassium chloride, hyperosmolar glucose, and crystalline trichosanthin.[5]

Systemic methotrexate treatment was found ideal for a CSP presenting before 8 weeks gestation with beta human chorionic gonadotrophin (hCG) levels less than 12000 mIU/ml.

Surgical modalities are uterine curettage, resection of the abnormal area which showed appearances of trophoblastic tissue with laparoscopy or laparotomy. A successful hysteroscopic management of a CSP after failure of curettage and methotrexate treatment had been described by Chao et al.[6]

## CASE REPORT

A 33 years old woman presented to the emergency department in our hospital on 31-05-2021 at 6:10 pm with mild lower abdominal pain, fresh bleeding per vaginnum following amenorrhea for 7-8 weeks with urine pregnancy test positive.

The patient was admitted immediately. Her pulse was 90/m, bp=100/70 mmhg, patient was fully conscious. Thereafter transvaginal sonography was done, which showed a clear picture of a small sized gestational sac on the utero-vesical pouch tending towards the left side of previous LSCS scar.

She is a second gravida who previous caesarean section was done seven years back. We saw a uterine rent through which bleeding was coming out. There were no hemoperitoneum or ascitic fluid noted in the abdomen.

Following appropriate counselling, the patient confirmed her desire for future fertility and understanding the risk and benefits, she agreed to the surgical management i.e. diagnostic laparoscopy±therapeutic laparascopy and proceed. Consent was taken from the patient and her husband. Initially we started with a diagnostic laparoscopy procedure which began with a 5 mm telescope, which upon entering the abdominal cavity showed brown color bulging mass in vesico-uterine pouch tending towards left side of the angle of the previous LSCS scar. Later on diagnostic laparoscopy was converted to therapeutic laparoscopy. Uterus identified.

Ectopic pregnancy noted in anterior uterine wall with a gestational sac measuring 5×4 cm. Intra-abdominal adhesions were noted with uterus and bladder which were carefully dissected by sharp dissection. Laparoscopic excision of the ectopic product was done, haemostasis secured and uterus closed in layers. Product of conception sent for histopathological examination. Patient was uneventful in the postoperative period. Her post-operative complete blood counts, liver function test, renal function test and serum electrolytes level were normal. She was discharged after 48 hours from the date of surgery with advice of regular follow up.

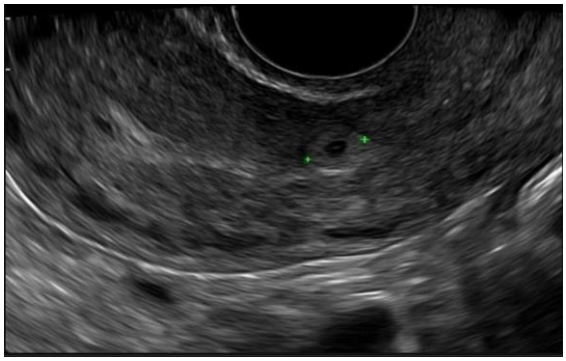

**Figure 2: TVS showing caesarean scar pregnancy.**

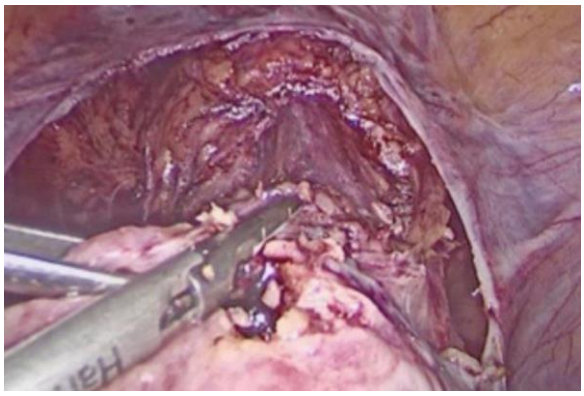

**Figure 3: Creation of anterior uterine wall incision for complete excision of the gestational products.**

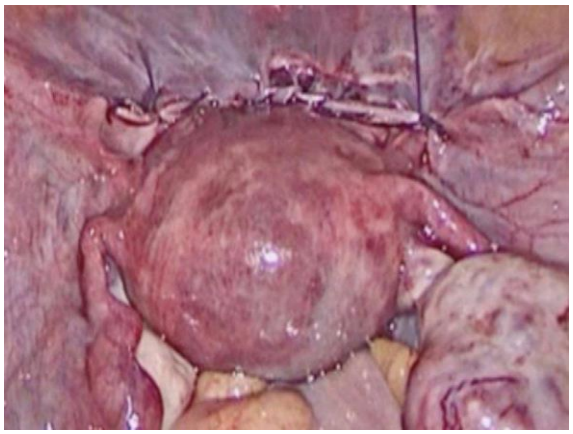

**Figure 4: Uterus after closure in two layers, peritoneum closed using 1-0 vicryl.**

## DISCUSSION

Caesarean scar pregnancy is defined as an implantation of pregnancy in a fibrous tissue scar of a previous caesarean section. A very rare form of ectopic pregnancy which can be life threatening. Due to increase in the caesarean section rates for both maternal and fetal indications, the incidence of CSP is also steadily rising. In this case, the patient had delivered by a caesarean section 9 months ago.[7] The most probable mechanism that can explain scar implantation is that there is invasion of the myometrium through a

microtubular tract between the caesarean section scar and the endometrial canal.[8]

The diagnosis of CSP requires a high vigilance as in most cases the clinical presentation poses a diagnostic dilemma. This case was misdiagnosed as very early intrauterine pregnancy and medical termination of pregnancy was done by the patient by taking over the counter abortifacient pills. Persistence of sac after 10 days with cardiac activity at the site of previous caesarean scar and empty endometrial cavity and cervical canal with persistence of heavy painless vaginal bleeding established the diagnosis. Ultrasound with color Doppler should be the mainstay for the diagnosis of CSP.[9]

The MRI may also prove helpful in establishing diagnosis. Sonographic criteria include an empty uterus, empty cervical canal, development of the gestational sac in the anterior part of the lower uterine segment or uterine isthmus, and an absence of healthy myometrium or presence of thinned out myometrium between the bladder wall and the gestational sac. Conservative management with intramuscular methotreaxate (MTX) can also be given. However, some of the researchers have reported higher failure rates with methotrexate.[10] But persistence and increase in the size of sac and continued PV bleeding despite rapidly falling beta-hCG values after MTX therapy usually prompts a laparoscopic management of the CSP. Systemic MTX is ideal for CSP before 8 weeks and beta-hCG levels below 12,000 mIU/ml. In this case, a patient was given both the option of medical and surgical management but she chose the later on her own.[11]

Laparoscopic wedge resection of scar ectopic is a very safe option for CSP, as resuturing of the defect prevents scar disruption in subsequent pregnancies. Blood loss in laparoscopy can be further reduced with injection of vasopressin locally in the sac.[12] An exploratory laparotomy is justified only in patients who have not responded to other treatment options, or in suspicion of uterine rupture, or nonavailability of laparoscopic expertise.

A CSP complicates 1 in 2300 pregnancies.[13] As subsequent pregnancies may be complicated by uterine rupture, the uterine scar should be evaluated before as well as during these pregnancies, CSP can maybe dangerous outcomes, including uterine rupture, massive haemorrhage and maternal death.[14]

## CONCLUSION

With the increasing incidence of caesarean section rates worldwide, the diagnosis of CSP should be an important differential diagnosis in patients presenting with painless PV bleeding with history of previous caesarean section in recent past. Proper use of imaging modalities will help in early diagnosis, initiation and success of conservative management and prevent catastrophic clinical scenarios and preserve fertility. All the treatment options should be thoroughly discussed with the patient and decision should be taken pertaining to patient's condition and wish. Laparoscopic management is a safe option. It needs standardization and can be the treatment of choice in selected group of patients. It would not only treat the present pathology but also treat the scar fistula for subsequent pregnancies.

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