

CASE REPORT

Viable Caesarean Scar Pregnancy: A Case Report

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ABSTRACT

Ectopic pregnancy is a pregnancy in which blastocyst is implanted at a site other than the endometrium. When it is partially or completely implanted with in the scar it is known as caesarean scar ectopic pregnancy (CSP). It is a very rare form of the ectopic pregnancy and most of the literature available is in the form of case reports and case series. In the succeeding report of a case, a 31 years old gravida-4 para-2 with one miscarriage and one caesarean section presented in emergency department with the amenorrhea of 9 weeks and 5 days. She had moderate abdominal pain and vaginal bleeding. After in-patient evaluation she was diagnosed of having viable CSP, necessitating termination of pregnancy. The challenge after the diagnosis was to remove the CSP and retain future fertility without increasing the morbidity. Uterine artery embolization (UAE) followed by the laparotomy and excision of the ectopic pregnancy was carried out to reduce the risk of the hemorrhage. Early and accurate diagnosis is the key and should be followed by individualized prompt treatment in expert hands. A multidisciplinary approach is essential to reduce the overall morbidity and help retaining the future fertility of the patient.

KEYWORDS: Cesarean scar pregnancy (CSP), Uterine artery embolization (UAE), Hemorrhage, Ectopic pregnancy.

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INTRODUCTION

Ectopic pregnancy is a pregnancy in which blastocyst is implanted at a site other than the endometrium. When it is partially or completely implanted with in the scar it is known as

Caesarean scar ectopic pregnancy (CSP). It is a very rare form of the ectopic pregnancy and most of the literature available is in the form of case reports or case series. Its incidence ranges from 1/1800 to 1/2200 of all pregnancies and accounts for 6% of all pregnancies among women who have history of previous caesarean section.^{1,2} The increasing incidence of CSP can be attributed to the increasing number of the primary and repeated caesarean sections and better diagnostic modalities. The incidence of the primary caesarean sections worldwide is 18.6% of all births.³

Though very little is known about the pathology of the CSP. The endometrial and myometrial disruption or scarring could be one of the predisposing factors in abnormal uterine implantation.⁴ Surprisingly the number of the previous caesarean sections has no correlation with the increased incidence of CSP, as most of the CSP were found in patients having previous one caesarean section.^{5,6} The ectopic pregnancy in a

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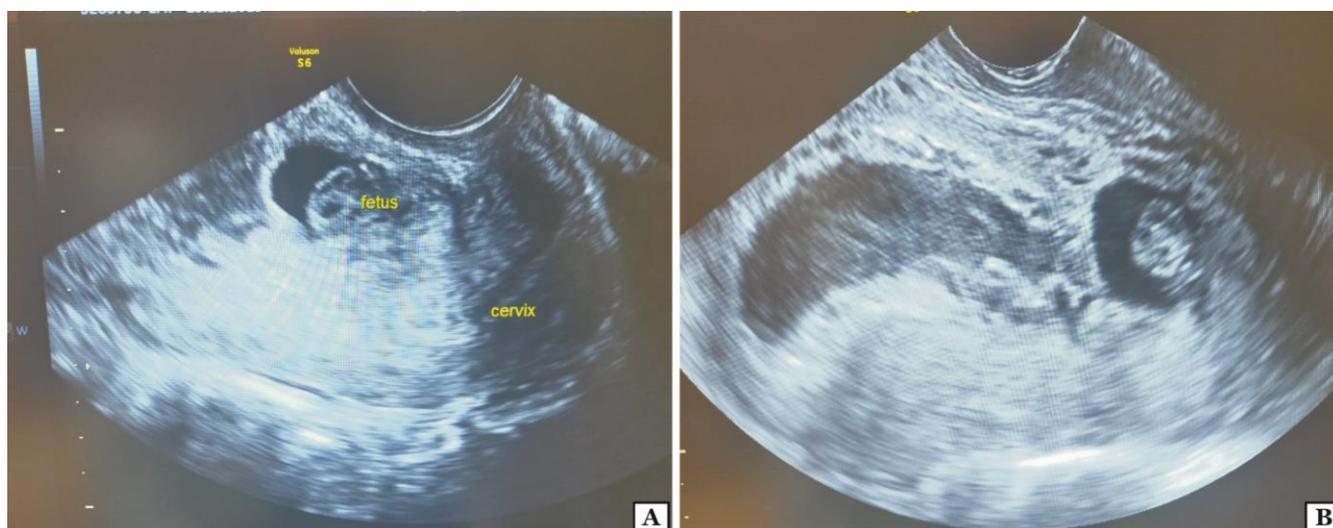


Fig: 1. Transvaginal ultrasound showing (A) the empty cervical canal and the fetus in the caesarean scar. (B) empty uterine cavity.

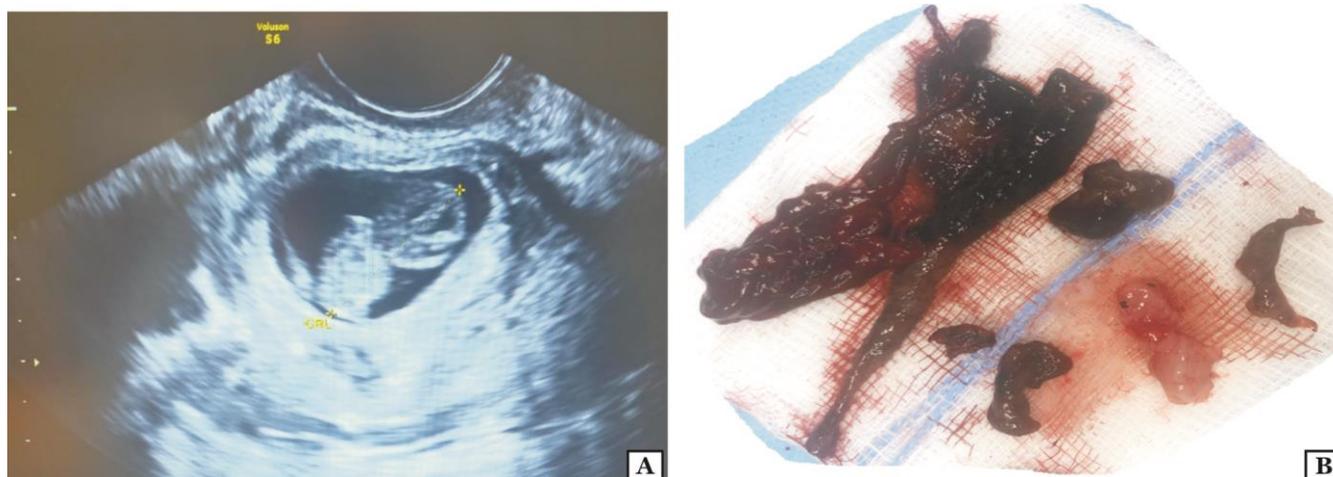


Fig: 2. Transvaginal ultrasound showing crown rump length (CRL) of the fetus (A). Surgical removal of the fetus and the placental tissue (B).

surgical scar has also been reported not only after caesarean section but also following myomectomy, uterine evacuation, previous abnormally adherent placentation, manual removal of the placenta, metroplasty, hysteroscopy and in vitro fertilization.⁷

The first case of CSP was reported in 1978 by Larson and Solomon.⁸ Ultrasound could be considered as the main and the first line diagnostic tool for CSP.^{4,9} The transvaginal ultrasound could soon be the gold standard diagnostic tool for the diagnosis of scar implantation.²

The rationale to report this case is the rarity of viable CSP and secondly the combination of

treatment we tried is also novel and we found it very effective in reducing the morbidity and want others to try this to prove its efficacy.

CASE REPORT

A 31 years old Middle Eastern female presented to emergency of Obstetrics and Gynaecology Department at Dr. Sulaiman Al-Habib Hospital, Riyadh, Saudi Arabia with complaints of lower abdominal pain and vaginal bleeding from last 2 weeks at the gestational age of 9 weeks and 5 days. She was gravida four para two with a history of one spontaneous miscarriage at 8 weeks of gestation in

her first pregnancy followed by a spontaneous vertex delivery at 39 + weeks. Her last delivery was by Caesarean section due to breech pregnancy at 39 weeks of gestation.

Her youngest child is a male baby, one year and two months old. Her last menstrual period was on 13th December, 2019. There was no history of any other medical and/or surgical illness. She was a non-smoker and there was no history of alcohol or substance abuse.

On examination, she was vitally stable; abdomen was soft and mildly tender on deep palpation.

Per speculum examination showed very mild bleeding from the closed os in the presence of a healthy cervix. Her haemoglobin was 11.7 gm/dl and beta human chorionic gonadotropin (β -hCG) level was 60905 mIU/ml. On trans-vaginal ultrasound, a single viable fetus was seen in the uterine scar with empty uterine cavity with closed and empty cervical canal (Fig. 1). The thickness of the myometrium between the gestational sac and the bladder was 2.3mm only. She was admitted in emergency and after the second opinion the diagnosis was confirmed.

Different treatment options were discussed with the couple and the risks explained. The couple agreed to the suggested combined management. High risk consent was taken, risk of hysterectomy discussed with them and the consent was taken for hysterectomy, if required, in case of severe hemorrhage.

Preoperative work up showed a near normal profile. The uterine artery embolization (UAE) was carried out with the help of interventional radiologist and after 24 hours of UAE, patient was taken for laparotomy. In the operating room, after general anesthesia, the patient was put in the lithotomy position and a 14-French Foley catheter was placed in the cervical canal and inflated with 10 cc of normal saline. The purpose of the intra-cervical Foleys was to provide tamponade during dissection in addition to providing a track to uterine cavity. Abdomen was opened after removing the previous scar and as soon as the vesico-uterine pouch was opened and deflected down, a bluish hue of the ectopic was identified. One ampule of vasopressin was diluted with 19 ml. of normal saline to make a 20 ml. of solution. Six ml. (units) was injected in the area of the scar before

giving the incision and then the whole ectopic tissue was removed with the small fetus and the placenta (Fig. 2).

The uterine cavity was opened in the procedure, the cavity was thoroughly cleaned and uterine lavage was done with 50cc of warm saline. The edges of the uterine scar were then refreshed and closed in continuous manner in 2 layers with vicryl 1-0. Peritoneal lavage was done and after hemostasis abdominal cavity was closed in reverse order. Aseptic dressing was applied. The cervical catheter was deflated and removed after the procedure and vagina was cleaned. The estimated amount of blood loss was 300 ml. The post-operative recovery was uneventful.

Post-laparotomy β -hCG level at 12 hours and 72 hours was 16023.40 mIU/ml. and 2156 mIU/ml. respectively that showed a 7-fold drop. Her post-operative haemoglobin was 10.5 gm/dl. She did not receive a single unit of blood and was discharged in stable condition on fourth post-operative day. Patient was followed up on 12th post-op day with a nicely healed scar and β -hCG level of 112.8 mIU/ml. Weekly follow up of β -hCG showed a normal, non-pregnant level on 18th post-operative day.

Detailed counseling of the patient was done. Resumption of menstrual cycle within next 9-12 months due to UAE was discussed with the patient. Contraception was advised for two years and early booking during next pregnancy for the purpose of confirmation of intrauterine pregnancy was emphasized.

DISCUSSION

Caesarean scar pregnancy is one of the rarest forms of ectopic pregnancy and no gold standard treatment is available for it. Multiple treatment options are available including different medical and surgical regimens. Though the patient was hemodynamically stable, a combined surgical and medical management was opted because of the symptoms, unusually high β -hCG levels, viable pregnancy and thinning of the myometrium between the gestational sac and the bladder (2.3mm). A combination of UAE with cervical catheter, intra-scar vasopressin and resection of the ectopic pregnancy was carried out, that has not been reported earlier in literature. The authors

found this combined technique very effective as it was associated with minimal amount of blood loss and β -hCG dropped to non-pregnant levels in 18 days after surgery. The same result was found by Sun and colleagues in China in 2015, where the serum β -hCG dropped to normal in the surgical group in 10-18 days.¹⁰ Despite of using UAE, the blood loss was slightly higher in this patient which may be due to increased gestational age and with very high β -hCG levels. There are some reports that advocate ligation of uterine artery to reduce bleeding prior to the removal of CSP mass laparoscopically.^{11,12} This approach is minimally invasive and recovery is shorter, but it needs considerable expertise in advanced laparoscopic surgery.¹³ Laparotomy was chosen as a procedure of choice for the patient in the present case report, as expertise for laparoscopic surgery is not available in the surgical unit. Patient will be followed up till her subsequent pregnancy. The long-term effects of the treatment are yet to be determined and further research is encouraged.

Though CSP is a rare entity and can be associated with the fatal complications but the morbidity associated with it can be reduced by early diagnosis and prompt treatment in expert hands.¹⁴ The recurrence risk reported is 3.2 – 5.0% after dilatation and curettage, with or without UAE.^{5,12} Though theoretically the risk seems low in the patient under discussion because of the restoration of the normal reproductive anatomy, recurrence, however, is reported after surgical repair as well.¹⁵ This suggests a future scope of more research to identify the elements and factors that may help in reduction of recurrence.

CONCLUSION

Caesarian scar pregnancy is a rare event and there are no specific guidelines available for the treatment. Presentation in the late first trimester and with the presence of a viable fetus, management of this rare ectopic pregnancy poses a great treatment challenge for the obstetricians. This case report may add a significant contribution to the existing literature on combination therapies for management of patients in late first trimester pregnancy while retaining fertility.

LIMITATIONS OF REPORT

This is a single case discussion where patient was clinically stable with no adverse event reported. Results may not be generalizable for a larger population. Hence further studies are strongly suggested to deliberate the efficacy of combination of treatments and their subsequent effects on the future fertility of patients.

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CONFLICT OF INTEREST

None to declare.

FINANCIAL DISCLOSURE

None to disclose.

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Author's Contribution

SN: Concept and design of the study, acquisition and analysis of data, drafting the manuscript, final approval of the manuscript.

SEM: Data collection and drafting the manuscript.

AS: Revising the manuscript for intellectual content.

NR: Analysis and interpretation of data.

ARH: Analysis and interpretation of data.