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## Case Report

# A skillful approach in a case of caesarean scar ectopic pregnancy

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### ABSTRACT

Key to a successful outcome in a rare life threatening condition like cesarean scar ectopic pregnancy is early diagnosis and treatment. The risk of massive haemorrhage can lead inevitably to a hysterectomy in past. The most effective method of treatment is not yet found. We report a case of a previous LCSC and one D&E of 35-year-old female (G3P1A1L1) with 7 weeks of amenorrhea and vaginal bleeding. A gestational sac with an embryo in the cesarean scar canal was seen on ultrasonography. The fertility-sparing therapeutic strategy involved cesarean scar curettage to remove the trophoblastic under ultrasound.

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## 1. Introduction

In general, ectopic pregnancy is a type of pregnancy where implantation occurs anywhere other than the uterine cavity. In case of cesarean scar ectopic pregnancy, gestational sac implants on the cesarean scar. Occurrence of cesarean scar pregnancy is a rare phenomenon. Overall the incidence of cesarean scar ectopic pregnancy is <1% among all ectopic pregnancies.<sup>1</sup> An incidence of cesarean scar ectopic pregnancy is approximately 1/8628 to 1/10000 of all pregnancies.<sup>2-4</sup> Any delay in diagnosis and management of this condition can lead to high morbidity and mortality. Sometimes this can cause profuse bleeding which rarely demands a hysterectomy and in the worst scenario can even cause the death of the patient.<sup>5</sup> There are various risk factors including previous endometrial curettage, previous caesarean section, use of intrauterine devices, and assisted reproductive technologies. The common presenting symptoms of this condition are amenorrhea and uterine bleeding with or without pelvic pain.<sup>4</sup> The symptomatology and detailed ultrasound are the main weapons for the

diagnosis of cesarean scar ectopic pregnancy. In this case, we discuss an approach to a rare case of cesarean scar ectopic pregnancy where medical treatment was not enough by itself to solve the situation. However, it was still possible to undertake a successful conservative surgical approach to preserve a young woman's fertility.

## 2. Case Report

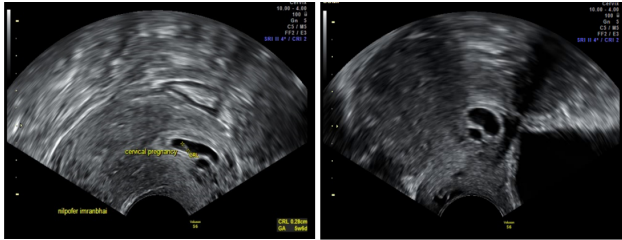
A 35-year-old patient - (G3P1A1L1) presented to our clinic to confirm her pregnancy status on January 10, 2024. She did not have any systemic discomfort except for some vaginal spotting a few days prior. Her last menstrual period began on November 11, 2023, and had duration of 7 days. She had a history of one full-term lower segment cesarean section surgery 13 years back. Previously, she had one missed abortion at 9 weeks of amenorrhea for which she underwent dilatation and evacuation. The postoperative follow-up examinations were stable with no specific problem on previous D & E.

On pelvic examination, the external cervical os was closed with bleeding with traceable fetal heart sound on USG. A transvaginal ultrasound was done which showed

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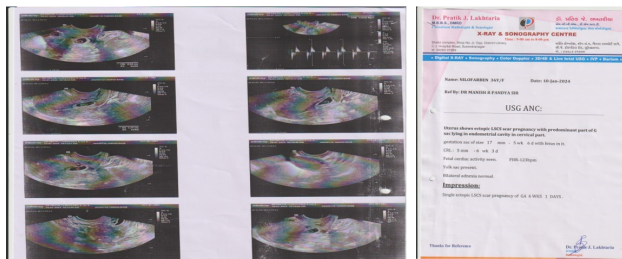
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neither an intrauterine gestational sac nor an adnexal mass (Figure 1). On further detailed ultrasound, a G sac was present at the level cs scar. Thereafter, she was admitted for further management and the patient was asked to do routine pre-operative work up.



**Figure 1:** Transvaginal sonography performed on January 6, 2024 (A and B).

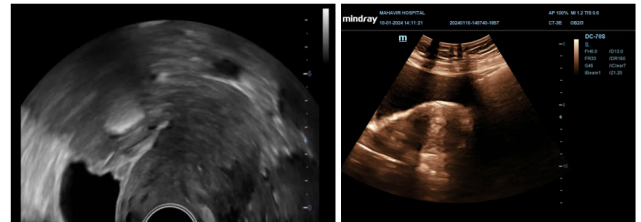
An anteverted normal-sized corpus was seen, in which gestational sac was not present in the uterine cavity (B). the patient presented to the emergency room on January 10, 2024, with increased vaginal bleeding with associated lower abdominal cramps. Transvaginal ultrasonography revealed an oblong-shaped gestational sac at the level of cs scar and the peri-trophoblastic flow was well demonstrated by pelvic colour (Figure 2). This finding confirmed that the gestational sac located above cervical canal was implanted on the cs scar just above the external os, rather than a migratory expelled gestational sac which had undergone an inevitable abortion. A blood sample showed a beta-hcg level of 31,320 miu/ml, a white blood cell count of 14550/ $\mu$ l, haemoglobin 13.2 g/dl, and a platelet count of 4,03,000/ $\mu$ l. Other laboratory values were within normal limits: normal coagulation tests and liver and renal functions.



**Figure 2:** Transvaginal sonography performed on January 10, 2024 (A, B and C)

The double-ring gestational sac was seen in the caserean scar, while the fetal heartbeat was traceable. (B) the oval, elongated gestational sac was seen above the cervical canal on cs scar and the yolk sac was seen. Colour Doppler ultrasound revealed the blood flow signals present around and near the gestational sac. There was peri-trophoblastic flow with demonstrable flow waveforms. Counselling of the patient was done and the options for managing a cesarean scar pregnancy were explained, including the risk related

to intraoperative bleeding, which can be catastrophic or life-threatening. The patient was admitted to the hospital on January 10, 2024, and was advised for pre-operative fitness. The patient agreed to a suction curettage. The whole procedure was carried out under ultrasound guidance while keeping emergency laparoscopic/ Hysteroscopy setup ready. The procedure went smoothly under intravenous general anaesthesia. There was no massive bleeding and the postoperative course was uneventful. No notable presence of the product of conception was seen on ultrasound. The patient was discharged on January 11, 2024, in a stable condition. There were no abnormal findings in the further follow-up visits to our hospital (Figure 3).



**Figure 3:** Transvaginal sonography performed on January 11, 2024

An anteverted normal-sized corpus was seen. the endometrial cavity was well demonstrated. The extension to the cervical canal was normal morphologically. Currently, the patient is clinically well under oral contraception.

### 3. Discussion

An embryo undergoing nidation on the cesarean scar instead of implanting in the uterine cavity causes cesarean scar ectopic pregnancy.<sup>4</sup> Any compromise in the capacity of the uterine cavity that prevents implantation in the endometrium can be a contributing factor.<sup>2</sup> Although cesarean scar ectopic pregnancy is very rare, there are some associated risk factors, such as previous endometrium curettage, in vitro fertilization–embryo transfer, intrauterine adhesion, and previous uterine surgery, e.g., caesarean section.<sup>6,7</sup> Nowadays, the incidence seems to be rising not only due to assisted reproductive technologies but also thanks to better access and accuracy of transvaginal ultrasound and Doppler scanning.<sup>5,8</sup>

The ultrasound criteria to establish the diagnosis consists of the

1. Absence of an intrauterine pregnancy,
2. Presence of a gestational sac at the level of the cesarean scar
3. Absence of a sliding sign, and
4. Presence of flowing blood around the gestational sac detected by Doppler ultrasound.

She had the characteristic symptom of vaginal bleeding, with lower abdominal pain. Thus the ultrasound imaging

study played an important role in the precise diagnosis.

According to Ushakov et al,<sup>6</sup> who reviewed 117 cases of cervical pregnancy, sonography improved pre-treatment diagnosis by up to 81.8%. The following findings of transvaginal ultrasound indicate a cesarean scar pregnancy: a gestational sac or placental tissue visualized at the level of cs scar or a cardiac motion noted above the level of the internal os with a closed internal os. There will be no intrauterine. It is important to differentiate a cesarean scar pregnancy from an inevitable abortion.<sup>9</sup> If the gestational sac can be moved by the vaginal probe, or the internal os is dilated, an incomplete abortion is more likely.<sup>7</sup> The symptom of lower abdominal pain also suggests a threatened abortion. If there is peri-trophoblastic blood flow under colour ultrasound, a cesarean scar ectopic pregnancy must be considered.<sup>6,10</sup> It is easy to misdiagnose a cesarean scar pregnancy in the early stages of pregnancy, especially when the gestational sac is small and flattened in the cesarean scar canal. For women in early pregnancy, but in whom an intrauterine pregnancy has not yet been found, the diagnosis of a cesarean scar ectopic pregnancy, although rare, must be considered.

The treatment options for a cesarean scar pregnancy depend on the hemodynamic condition and the fertility desires of the patient.<sup>7,10</sup> The treatment options for a cesarean scar pregnancy depend on the hemodynamic condition and the fertility desires of the patient,<sup>11,12</sup> local Kcl injection, or suction curettage can be used. When uncontrolled bleeding occurs cervical cerclage, balloon tamponed, angiographic embolization, uterine artery ligation, or even hysterectomy should be the only option.<sup>9</sup> Vela et al<sup>13</sup> reported 12 cases of patients with cesarean scar pregnancy and none of the 12 patients with the correct initial diagnosis required a hysterectomy. Therefore the earlier the correct diagnosis is made, the fewer complications are likely. This emphasizes the importance of the early diagnosis of a cesarean scar pregnancy.

This patient was diagnosed at a gestational age of 7 weeks. The gestational sac was small and the peritrophoblastic vessels were seen on Doppler ultrasound. Sac was present at the cesarean scar and we managed patient with pgf2 alpha analogue administration preceding suction curettage gently without massive haemorrhage under general anaesthesia and post-procedure complications were nil.<sup>14</sup> If we pay more attention, cesarean scar pregnancy can be diagnosed at an earlier gestational age under a high-resolution ultrasound examination. Early diagnosis and proper management may avoid more disastrous complications, such as artery embolization or even hysterectomy.<sup>13</sup>

#### 4. Conclusion

Every obstetrician and gynaecologist should be aware that cesarean scar ectopic pregnancies are rare but life-

deteriorating if misdiagnosis or treatment is delayed. The treatment for cesarean scar ectopic pregnancy depends on the surgeons' approach, mostly aiming for the preservation of reproductive function if the patient has this desire to conceive and is hemodynamically stable. Methotrexate is the most effective medical treatment. If treatment with methotrexate fails or is contraindicated, conservative procedures to remove the product of conception can be done by dilatation and curettage under ultrasound guidance and sometimes requires surgical or laparoscopy hysteroscopy. There is always a risk of severe haemorrhage that may require a hysterectomy; therefore, a procedure to reduce the bleeding before or after the procedure may be crucial. Uterine artery embolization can decrease morbidity, mortality, and the need for an emergent hysterectomy during an invasive procedure in patients with a high risk of bleeding. Hence surgeon being ready with proper surgical and laparoscopy setup before taking a case for dilatation and curettage.

#### 5. Conflict of Interest

None.

#### 6. Conflict of Interest

Nil.

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