

## Caesarean Scar Ectopic Pregnancy : An Early Pregnancy Near Miss

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### Abstract

**Background:** Caesarean Scar Ectopic Pregnancy (CSEP) is a rare form of extrauterine pregnancies which is usually life threatening. It occurs when pregnancy implants in a caesarean scar. Though rare form, the number of CSEP incidence is in rising trend due to global increasing numbers of cesarian section deliveries comparing with other form of ectopic pregnancies. CSEP poses a greater risk to maternal haemorrhage and even death. The purpose of the study to disseminated our knowledge and experience of clinical characteristics, presentation and treatment about the case report for the readers as future references.

**Case Presentation:** On 19<sup>th</sup> May 2022 a third gravida patient with the history of two previous caesarean section came to the Islamic Bank Hospital Agrabad, Chattogram with 9 weeks of amenorrhoea. She had expressed to discontinue her pregnancy. According to the USG a caesarean scar ectopic pregnancy was diagnosed which was corresponding to 6+ weeks of gestation and was advised for TVS and HCG. On 2<sup>nd</sup> June 2022 the patient admitted in Chattogram Maa-O-Shishu Hospital Medical College. Her TVS findings showed endophytic types of CSEP with her HCG was 144730 MIU/ml. Though different modalities of treatments are available, the surgical excision with effective haemostasis was done with preserving the uterus successfully. Post operative period was uneventful. Two units of blood were transfused to correct anaemia. Histopathology reports revealed decidual changes with chorionic villi.

**Conclusion:** Although CSEP is a rare condition. An early diagnosis and well-planned treatment can save uterus, preserve fertility as well as can prevent mortality and morbidity.

**Key words:** Caesarean scar ectopic pregnancy; Caesarean section; Early diagnosis; Haemorrhage.

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### Introduction

An ectopic pregnancy is one when foetal tissue implants other than normal site in uterus near fundus. In uterus ectopic pregnancy may in Cervix, Cornu and Uterine scar. When the blastocytes implanted on a previous caesarean scar it is known as a Caesarean Scar Ectopic Pregnancy (CSEPs). It is rarest of all ectopic pregnancy.<sup>1</sup> CSEP is associated with high morbidity and mortality.<sup>2</sup> An estimated prevalence of 1/2000 pregnancies are Caesarean Scar Pregnancies (CSEPs) and 6% of all ectopic pregnancies.<sup>3</sup> Two different types of scar ectopic pregnancies are identified. Type I or endogenic CSEP where gestational sac implanted in the prior scar with progression towards the cervicoisthmic space or the uterine cavity. Type II or exogenic CSEP is caused by deep implantation into scar defect with infiltrating growth into the uterine myometrium and to uterine serosal surface and bladder wall.<sup>4</sup> It is important to identify the types, as it helps patient counseling on expected management as well as determination of medical or surgical management. Their increasing trend is considered a consequence of the increasing rates of caesarean section deliveries.<sup>5</sup>

### Case Presentation

A 35-year-old lady, para 2 + 0 with the history of two previous caesarean section presented with nine weeks of amenorrhoea. She came to discontinue her pregnancy which was confirmed by herself with urine sample for pregnancy strip test at home. On examination her vitals were within the normal limit (Blood pressure 100/70 mm of Hg, Pulse 82 bpm) no abdominal tenderness nor any per vaginal bleeding. She was advised for an Ultrasonography (USG) of lower abdomen [Figure 2] to confirm the pregnancy as well as the site of the pregnancy. The USG report revealed that the uterus was gravid, and a single gestational sac (13mm) was seen in the anterior myometrium of lower uterine segment within old caesarean scar which corresponds to 6+ weeks of gestation. The patient was advised to admit in the hospital with the advice for TVS and serum HCG.

But the patient travelled to the overseas where she was diagnosed with Caesarean scar ectopic pregnancy by Transvaginal Sonography (TVS) [Figure 1]. In the meantime, she developed per vaginal bleeding while in the overseas, but she decided not to be admitted in the overseas hospital for management rather back to Bangladesh. HCG value was found 144730 MIU/ml. On admission she was anaemic Hb% 8%, pulse 100bpm, Blood Pressure 90/60 mm of Hg, the abdomen was tender and mild PV bleeding present. A TVS was done and it revealed that the ectopic mass had invade the scar with impending rupture near the scar. Her clinical condition was deteriorating and planned for surgery.<sup>6,7</sup>



Figure 1 Transvaginal Sonography Figure 2 USG lower abdomen

**Per operative findings:** After opening of the abdomen, the anterior wall of the uterus was found adherent to the bladder peritoneum. Once the adhesiolysis performed; the mass was protruding at the right corner of previous scar of uterus and gestational sac was found along the scar [Figure 3]. The sac was removed by suction with excision of the old scar tissue [Figure 4]. After suturing of the excision area oozing was present so absorbable haemostatic gelatin sponge (Spongostan) applied to control bleeding. A balloon catheterization was done with 30ml distilled water to prevent haemorrhage. One unit of blood was transfused per-operatively to correct the anaemia.



Figure 3 Per-operative CSEP Figure 4 Per-operative suction evacuation

**Histopathological findings:** The suction materials were sent for histopathology, and it was reported decidual changes with chorionic villi.

**Post Operative:** The patient had an uneventful post-operative recovery. After 24 hours of the surgery, the balloon catheter was removed, and the per-vaginal bleeding was average. Another unit of blood was transfused post operatively.

A written informed consent was obtained from the patients though this article does not contain any personal information that can be led to the identification of the patient.

### Discussion

The case we presented is a 35-year-old patient who had previous history of two cesarean sections. In the event of one case series, that most scar ectopic pregnancies occurred after only one cesarean section even though our patient had two cesarean sections. The number of cesarean sections appear to have no impact as an independent risk factor which supported by our case too.<sup>8,9</sup>

An estimated prevalence of 1/2000 pregnancies is Caesarean Scar Pregnancies (CSEPs) and 6% of all ectopic pregnancies.<sup>7</sup> Their increasing trend is considered a consequence of the increasing rates of caesarean section deliveries.<sup>5</sup>

Ectopic pregnancies involve with high rates of morbidity and mortality if not identified and managed promptly. It may present with mild or no pain, vaginal bleeding, or more unclear complaints such as nausea and vomiting. The most common presentation of CSEC is painless vaginal bleeding without any specific clinical sign. To diagnosis the case a transvaginal ultrasonography and colour doppler proved to be helpful.<sup>10,11</sup>

Initially our patient was asymptomatic but with the delay of her own decision making, she progressively developed with symptoms like vaginal bleeding and pain. As a result, she needed two units of blood to correct her anaemia.

Treatment needs to be individualised depends on the clinical presentation, hemodynamic status, desire for future fertility, serum HCG level, imaging features and surgeons' expertise.

Medical management has the advantages of being noninvasive but needs through counselling regarding the risk of hemorrhage, long term follow-up with serial HCG measurement with the possibility of surgical intervention including hysterectomy.<sup>12,13</sup>

Traditionally Methotrexate has been reserved for HCG level < 5000 IU/ML and it takes long time to normalize the level.<sup>12</sup> In our case, medical management with methotrexate was not the ideal choice because the patients HCG level was >100000 IU/ML and pulse rate gradually increasing though the patient was stable at the beginning.

Though Gupta et al reported a live case of CSEP with HCG level 297969 mIU treated with 4 doses of methotrexate alternating with leucovorin, along with KCL but it takes 119 days to normalize the HCG level.<sup>14</sup>

On the other hand, surgical management facilitate complete removal of conceptus, faster recovery, shorter follow-up due to rapid normalization of HCG levels. Surgical excision of scar for caesarean scar ectopic pregnancy cases is also considered as a vital management and effective to prevent recurrence.<sup>15</sup> Our decision for surgical management is encouraged and supported by different case reports for the patients with Caesarean scar ectopic pregnancy.<sup>16</sup>

Surgical excision can be achieved by laparotomy, laparoscopy, hysteroscopy or vacuumed aspiration. Our patient showed invasion of the scar by ectopic mass with impending rupture which was identified by TVS pre-operatively and patient also had abdominal tenderness with persistent vaginal bleeding, so laparotomy was done.

Per-operatively we had used absorbable haemostatic gelatin sponge (Spongastan) to create a barrier together with fibrin to stop bleeding in 2-10 minutes and would be completely reabsorbed in 4-6 weeks.

The surgery is done by resection of the old scar with repair, as a result the chance of recurrence is less.<sup>11,17</sup> It was also observed in another study on caesarean scar pregnancy cases, surgical excision of scar is considered as a key management and helpful to prevent recurrence.<sup>15</sup> Those case reports and our own clinical and laboratory findings helped us to set up the treatment plan and execute it successfully.

#### Limitation

Transvaginal Scanning equipment was not available with limited settings.

#### Conclusion

Caesarean Scar ectopic pregnancy is a life threatening complex condition with an increasing occurrence in recent years. An early accurate diagnosis and effective treatment plan are vital to reduce maternal mortality and morbidity. A missed diagnosis with delayed decision making may lead to uterine rupture, haemorrhage, or even maternal death.

#### Recommendation

Transvaginal scanning facilities, Ultrasound and training should be available for accurate and timely diagnosis. Patient counselling plays an important role to educate patient to avoid delay to initiate treatment. healthcare professionals should maintain an increased index of suspicion for the possibility of cesarean scar ectopic pregnancy. Sonographers who scan patients in first-trimester pregnancy should be aware of the diagnostic criteria. The treatment plan should be designed to maximise the patient's benefit by giving priority to preserve future fertility and prevent recurrence.

#### Contribution of authors

MJ-Conception, citing references, drafting & final approval.

SN-Design, critical revision & final approval.

AS-Citing references, drafting & final approval.

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