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A Rare Case of Caesarean Scar Ectopic Pregnancy – A Case Report Study

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Abstract

Caesarean scar pregnancy is one of the rare entities with the presence of the implantation of the trophoblast at the previous Cesarean section scar site. Women presenting with this condition are often asymptomatic if left untreated this condition can lead to uterine rupture and massive maternal haemorrhage. Therefore, it is important for prompt prenatal diagnosis and management of caesarean scar pregnancies at the earliest. We present a case of women with two previous caesarean sections with scar pregnancy and managed appropriately.

Keywords: *Caesarean Scar Pregnancy, Ectopic Pregnancy, Laparoscopy, Methotrexate.*

Introduction

Cesarean scar pregnancy (CSP) is a rare type of ectopic pregnancy that occurs when a fertilized egg implants in the scar tissue of a previous cesarean section. As cesarean deliveries increased, the incidence of CSP has risen, highlighting the need for increased awareness among healthcare providers. This condition can pose significant risks, including uterine rupture, severe haemorrhage, and potential long-term implications for maternal health and fertility. Diagnosis typically involves transvaginal ultrasound, which reveals signs, such as an empty uterine cavity and a gestational sac located within the scar. Symptoms may vary, ranging from abnormal vaginal bleeding and pelvic pain to asymptomatic cases detected incidentally [1]. Management approaches depend on several factors, including the gestational age, the patient's clinical condition, and their future fertility desires [3]. Treatment options may include medical management with methotrexate or surgical intervention, such as laparoscopic excision or hysterectomy in severe cases. Early recognition and intervention are crucial to mitigate risks, emphasizing the importance of understanding CSP [5].

Material and Method

Detailed history taking of the patient, clinical examination, laboratory investigations, transabdominal and transvaginal ultrasound, and histopathological analysis of the specimen if required were the methods used for this data.

Case Presentation

A case of 38-year-old G3P2L2 married for 14 years not sterilized with a history of two previous cesarean sections came to the Antenatal OPD of SBMCH with complaints of 2 months of amenorrhea. The patient had USG reports suggestive of the gestational sac of 12 mm attached to the previous caesarean scar site with evidence of foetal cardiac activity with an empty uterine cavity with no free fluid in the pouch of Douglas [Figure 1] Patient gives no history of previous ectopic pregnancy, pelvic inflammatory disease, IVF conception. The patient had no other specific complaints such as abdominal pain or vaginal bleeding.

Menstrual history: She had regular cycles lasting for 4-5/30 days. Not associated with clots or pain.

Obstetric history: The obstetric score of the patient is G3P2L2 with a history of previous 2

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caesarean sections first indication being fetal distress with the last childbirth 10 years back.

Medical history: No comorbid, no history of previous drug allergy or blood transfusion.

Family history: No significant history.

On examination patient's vitals were stable patient was afebrile conscious no pallor was seen. On palpation, her abdomen was soft and a non-tender suprapubic transverse scar was seen and healthy no keloid or tenderness was present over the scar site.

On local examination, there was no abnormal discharge or bleeding seen. The patient was advised admission all routine blood investigations were given including β-hCG and also advised Colour Doppler, upon results Colour Doppler demonstrated vascularity around the gestational sac and the serum levels of β-hCG were elevated (2326 mIU/mL) at the time of evaluation and increased exponentially. Serial monitoring of β-hCG was done. Since the patient was symptomatically stable medical management was considered. After explaining the condition and obtaining written consent patient was treated with systemic methotrexate, An intramuscular injection of MTX 50 mg/m^2 was given (on days 1, 3, 5, and 7) this was also given along with folinic acid (0.1 mg/kg) (on day 2, 4, 6, and 8 according to the multidose regimen). Despite 4 doses of MTX the B-HCG values continued to increase.

PARAMETERS	DAY 1	DAY 3	DAY 5	DAY 7
VITALS	Stable	Stable	Stable	Stable
PALLOR	NA	NA	NA	NA
BHCG mIU/mL	2326	6980	11989	18988

The patient presented with acute abdominal pain on day 8 of the medical treatment with no decrease of BHCG values hence taken up for emergency laparoscopy with excision of scar site pregnancy. Preoperative investigations were normal Hemoglobin was 11.2g/dL. Serology tested negative and Both the Liver Function Test(LFT) and Renal Function Test(RDT) were in the normal range. During laparoscopy there was dense adhesions noted around the uterus and the scar site was not visualized hence the procedure was converted to the open method - laparotomy intraoperatively no evidence of internal bleeding was seen, and a small prominence of 2x2 cm was seen on the previous scar site and same was excised [Figure 3]. Needles and instrument counts were counted and checked. The abdomen closed in layers and GC was fair throughout the procedure. The specimen was sent for histopathology.

Postoperative Period

Post-operatively patient was hemodynamically stable there were no postoperative complications. One course of IV antibiotics covered β-hCG level reached to 5,990 mIU/mL on POD -1 of surgery. HPE reports were consistent with products of conception. Postoperatively sutures were removed on POD -8. β-hCG were followed weekly serum levels were not detected 3 weeks post-surgery.

USG Image

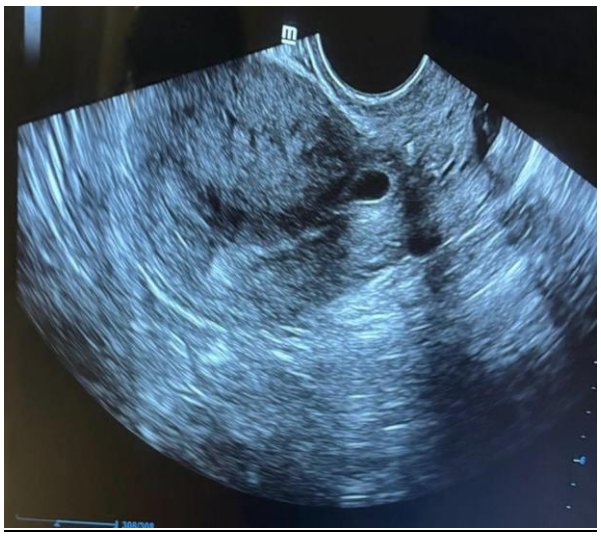

Figure 1. Transvaginal Sonography Showing Caesarean Scar Site Pregnancy

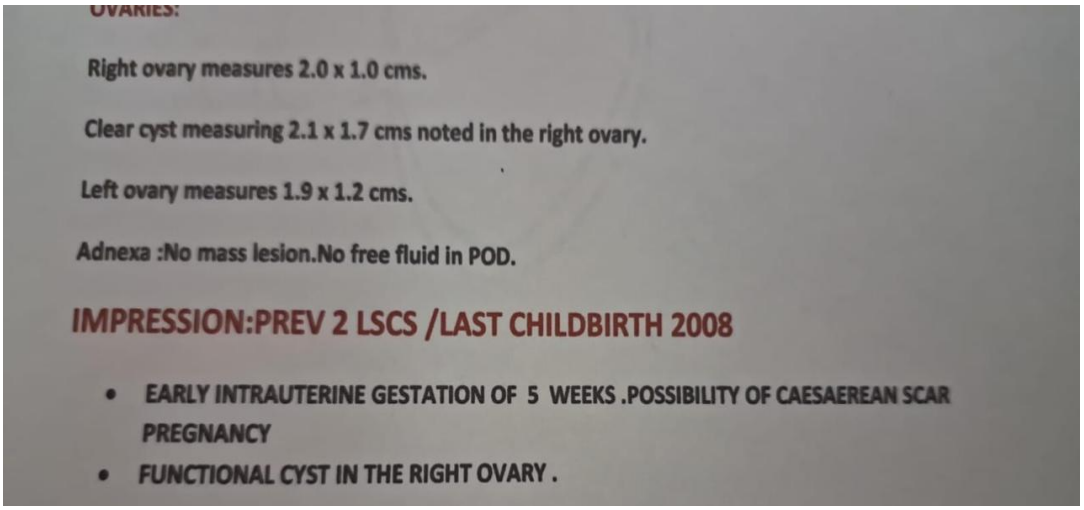

Figure 2. Transvaginal Sonography Report Showing Caesarean Scar Site Pregnancy

Figure 3. Intraoperative Picture Showing Sac in Lower Uterine Segment

Discussion

The increasing rates of caesarean sections recently have been with associated a substantial increase in cesarean scar pregnancy. The mechanism of this condition is uncertain but there are multiple theories suggestive of this phenomenon 1) migration of the gestational sac through a defect in a lower uterine segment or fistula present in the scar. 2) Villi of the placenta invades the uterine cavity at the site of scar dehiscence 3) presence of low oxygen tension in scar tissue. Cesarean scar pregnancy (CSP) is primarily classified into two types based on the implantation site within the scar tissue [8]:

1. **Type 1**: The gestational sac implants within the lower uterine segment, directly in the scar tissue. This is the most common form and poses significant risks of uterine rupture.
2. **Type 2**: The gestational sac implants in the isthmus of the uterus, which may be less prone to rupture but can still lead to complication

Both types can lead to abnormal placentation and require careful management [2]. Symptoms include pelvic pain and first trimester vaginal bleeding but many women are asymptomatic at diagnosis. The diagnostic modality of CSP is transvaginal ultrasonography in the early trimester with a combination of colour Doppler is recommended [4]. The type I "on-the-scar" or endogenic has a layer of myometrium between the anterior uterine wall and placenta. Type II "in-the-niche" or exogenic includes a thin myometrial layer below the placenta [7].

The ultrasonographic diagnostic findings suggestive of CSP may also include:

1. An empty uterine and cervical cavity
2. A gestational sac in the scar
3. Absent layer of myometrium between the bladder and the gestational sac
4. Vascularity around the scar tissue
5. Fetal pole with or without the presence of fetal cardiac activity.

Based on the clinical condition and parameters patient can be treated medically or surgically [6]. Operative resection of the CSP can be done laparoscopically, hysteroscopically or with laparotomy or with Suction aspiration with ultrasonographic guidance, CSP should be treated without delay following diagnosis, and a prompt decision should be made because of the increased risk of complications such as bleeding or rupture [9].

Methotrexate

It is a folic acid antagonist which inhibits DNA synthesis and cell production affecting the trophoblasts. It is preferred in stable women with β-hCG less than 5000 with absent cardiac activity Patient must be carefully monitored when undergoing treatment with MTX for its side effects such as nausea, vomiting, gastritis, dermatitis, elevated liver enzymes and bone marrow suppression. MTX is usually not given with NSAID (for pain) due to their increased risk of toxicity.

Acknowledgement

We are thankful for the support gotten from our professors, colleagues and the patients treated for this case.

Conclusion

As discussed earlier, Caesarean scar pregnancy is a life-threatening rare obstetrical condition, which is to be diagnosed at the earliest [4]. CSP management requires appropriate equipment and experienced healthcare professionals, availability of blood and blood products. Since the patient often are asymptomatic awareness of this condition is needed [10]. Post-treatment surveillance include serial clinical examinations, serum β-hCG measurements repeat ultrasound examinations [7].

Conflict of interest

None.

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