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Case Report

Caesarean Scar Ectopic Pregnancy: A Combined Management Approach

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Abstract

Background: *Cesarean scar pregnancy (CSP) is a rare ectopic pregnancy implanted on or within the myometrial scar from prior cesarean birth.With global rise in cesarean section rates its incidence is increasing,hence If not diagnosed in early period of the pregnancy, it can lead to severe fetal and maternal morbidity like uterine scar rupture, internal haemorrhage and shock.*

CSP is more likely and shares histopathology with placenta accreta spectrum and it can be considered as an early diagnosis of the same in first trimester. Little is known about precise etiology or natural history CSP is noted in around 1 in 2000 pregnancies, around 6% of abnormally implanted pregnancies and the incidence is increasing as there is rise in cesarean pregnancy rates. There is increased diagnosis of CSP due increased use in TVS in early pregnancy and increased awareness which leads to appropriate screening by TVS especially in cases of prior cesarean surgery. once diagnosed the treatment is termination of pregnancy in view of complications and most of the previous studies support an interventional /combined approach but the safest and most efficient clinical approach is yet to be finalised.Treatment ranges from medical, surgical or combined.

OBJECTIVE-Here we present a case which was a type 2 category CSPs, and we successfully managed the case with initial medical management using methotrexate followed by hysteroscopic removal of CSP using a hysteroscopic forceps.. We also discuss here the diagnostic and management strategies we concluded and the success of the strategy with minimal invasive technique and without any complication.

Categories: *Obstetrics/Gynecology, Radiology, Emergency Medicine*

Keywords: *cesarean scar pregnancy, hysteroscopic resection, methotrexate, niche or scar pregnancy, serum beta hcg*

Introduction

Cesarean scar pregnancy (CSP) happens when an early pregnancy implants on the cesarean scar defect or myometrial tissue which was disrupted in the previous cesarean delivery. CSP occurs in around 1 in 2000 pregnancies and accounts for 6 percent of abnormally implanted pregnancies among previous cesarean birth. The increase in incidence may be due to increased cesarean rates, increased use of transvaginal ultrasound and increased screening for CSP in patients with previous cesarean [1].

There are two main types of CSPs -according to Vial"s classification [2]:

Type 1 - Endogenous-implantation of CSP on the healed scar of previous cesarean and has residual myometrial thickness (RMT) of more than/= 3mm and grows towards uterine cavity.

Type 2 - Exogenous implantation of CSP within the defect or niche. In this type RMT is thin <3mm and it grows towards bladder and peritoneum. Clinical outcomes are more favorable in type 1 cases than type 2.

RMT is a significant predictor of CSP outcome. A CSP of <2mm is associated with a high risk for complications [2,3]. RMT and gestational sac diameter were confirmed to be high risk factors for intraoperative hemorrhage during CSP treatment [4]. Mechanism of abnormal implantation could be due to:

The endogenous migration of embryo through either a wedge defect in the lower uterine segment or microscopic fistula in the scar. Invasion of placental villi into the uterine wall at a point of scar dehiscence. Low oxygen tension of scar tissue attracting implantation of the fertilized oocyte. Since CSPs share a common histology with placenta accreta spectrum and are a continuum of same disease [5].

Case Presentation

A 27-year-old g2p111 with history of one previous cesarean. She presented with complaints of spotting pv since the last cycle, with early pregnancy and c/o pain less intermittent bleeding per vaginum. The patient was vitally stable and vaginal examination showed blood stained discharge. The transvaginal ultrasound showed an empty uterine cavity, a single live intrauterine fetus around 7 weeks by CRL with good cardiac activity indenting more towards the previous cesarean scar and with hypervascularity at scar site It. Appeared more of an exogenous or type 2 Cesarean scar pregnancy and had enhanced myometrial vascularity.

The patient was counselled in detail regarding her condition and the risks associated in continuing the pregnancy. After discussion with my peers, we planned for a combined medical and surgical management. The patient received injection methotrexate as 50 mg/m2 BSA intramuscular. Serum beta hcg and transvaginal ultrasound was followed up every week. During the follow up in the first week, cardiac activity stopped and the gestational sac was noted to be crumbled with the fetal pole. After the 4th week beta hcg fallen to 10 iu and the underlying increased vascularity has decreased grossly. Then the products of conception was removed hysteroscopically using gentle dissection with hysteroscopic forceps and with no bleeding at all. The patient recover well and had no further complaints. She was advised to use contraception for next 6 months. The patient conceived after 6 months and had a normal pregnancy period. She underwent Cesarean at term.

Discussion

Cesarean scar pregnancy is a rare and potentially life threatening condition that occurs when the embryo implants and grows within a previous cesarean section scar [5]. The scar pregnancies are a unique form of ectopic pregnancy and are associated with an increased risk of uterine rupture, massive hemorrhage and other complications. Hence, early detection and appropriate management of this condition is highly recommended [6] The scar pregnancies account for less than 1% of all ectopic pregnancies before but now has risen to around 6% due to global increase in cesarean section rates. Other previous uterine surgeries like dilatation and curettage, endometrial ablation, myomectomy, manual removal of placenta, invitro fertilization also may contribute to the risk of CSPs. The enhanced myometrial vascularity is its extreme form as with some cases of placenta accreta spectrum CSPs with enhanced myometrial vascularity is associated with high risk of hemorrhage [6].

Early transvaginal ultrasound evaluation plays a vital role in detecting the position of gestational sac and differentiating it from other ectopic pregnancies [7] .The type 1 CSPs may grow into endometrial cavity and progress to 2nd or third trimesters, but type 2 and type 3 which are exogenous type are more likely to cause early uterine rupture [8] .There is no specific choice of management, and the management is tailored according to the patients hemodynamic stability, gestational age and desire for future fertility. If the scar is thin and weak, and it maybe unable to withstand the growing pregnancy, resulting in uterine rupture and life threatening hemorrhage.

Enhanced myometrial vascularity along with CSP is also a significant marker which pose significant challenges in diagnosis and management. Hence, vigilant monitoring and prompt intervention are essential to prevent these complications. Some recommended approaches in treatment of CSPs include hysteroscopic resection, laparoscopy, uterine artery embolisation in combination with hysteroscopic resection or Dilatation & curettage [9,10,11]. In our case, early transvaginal ultrasound helped us in diagnosing the condition at the earliest and prompt intervention including initial medical management with serial beta hCG monitoring weekly and hysteroscopic removal of the scar pregnancy helped us to give a good recovery for the patient.

The emotional stress associated with the condition for fear of the complications associated and anxiety around future pregnancies can be overwhelming. Hence, proper counseling for prevention in future pregnancies including appropriate contraceptive advise are to be given, proper timing of next pregnancy, early evaluation in the next pregnancy with trans vaginal ultrasound to confirm the intrauterine implantation.

Conclusions

In conclusion, early detection and minimally invasive methods enhance outcomes. Minimally invasive methods have highest efficacy with minimal risk of failure, hemorrhage or need for hysterectomy. Cesarean scar pregnancy, even though a rare obstetric condition that requires early diagnosis and individualized management to minimize potential risk to the mother, it is important to have a standard protocol in managing such high risk pregnancies. With advancements in the ultrasound technology and increased awareness of the condition among the healthcare providers, timely detection for scar pregnancy is achievable. However, further research is needed to standardize the treatment protocol. By combining medical and technological expertise and multi disciplinary collaboration, we hope to navigate challenges of the scar pregnancies and bring out the best possible care protocol for women facing this complex obstetric condition.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

Concept and design: Shanitha Fathima IV

Acquisition, analysis, or interpretation of data: Shanitha Fathima IV

Drafting of the manuscript: Shanitha Fathima IV

Critical review of the manuscript for important intellectual content: Shanitha Fathima IV

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Disclosures

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References

1. Society for Maternal-Fetal Medicine (SMFM), Miller R, Gyamfi-Bannerman C, Publications Committee.: Cesarean Scar Ectopic Pregnancy. Am J Obstet Gynecol 2022. 2022, 227:B9.
2. Vial Y,Petignat P,Hohlfeld P.: Pregnancy in a cesarean scar(j) . ultrasond obstet gynecol.2000;16(6):592-3. 2000, 16(6):592-3.
3. Timor-Tritsch IE, Monteagudo A, Cali G, et al.: Hidden in plain sight : role of residual myometrial thickness to predict outcome of Cesarean scar pregnancy. Ultrasound obstet Gynecol 2023. 2023, 62:624.
4. Ban Y, Shen J, Wang X, et al.: Cesarean Scar Ectopic Pregnancy Clinical Classification System with Reccomended Surgical Strategy. Obstet Gynecol 2023. 2023, 141:927.

5. Noel L,Thilaganathan B. : Caesarean scar pregnancy: diagnosis, natural history and treatment . Curr Opin Obstet Gynecol.. 2022, 34(5):279-86.

6. Ilan E Timor-Tritschm,W Meredith McDermott, Ana Monteagudo, et al.: Extreme enhanced myometrial vascularity following cesarean scar pregnancy : a new diagnostic entity. The Journal Of Maternal-Fetal & Neonatal Medicine. 2021, 35 (5):1-12.

7. Gonzalez N,Tulandi T: Cesarean Scar Pregnancy:A Systematic Review. J Minim Invasive Gynecol. 2017, 24(50):731-8.

8. Mohamed Siraj Shahul Hameed, Ann Wright, Bernard Su Min Chen: Cesarean Scar Pregnancy: Current Understanding and Treatment Including Role of Minimally Invasive Surgical Techniques. Gynecol Minimal Invasive Ther.. 2023, 12:64-71.

9. Birch PK,Hoffmann E,Rifbjerg LC, et al.: Cesarean Scar Pregnancy:A Systematic Review of treatment studies.. Fertil Steril. 2016, 105(4):958-67.

10. Haiying Sun,Juan Wang,...Ronghua Liu: Systematic evaluation of the efficacy of treatments for cesarean scar pregnancy.. Curr Opin Obstet Gynecol.. 2024, 22:84.

11. Peiying Fu, MM. Haiying Sun, MD. Long Zhang, MD. Ronghua Liu, MD: Efficacy and Safety of Treatment Modalities for Cesarean Scar Pregnancy: A Systematic Review and Network Meta-Analysis. American Journal of Obstetrics and Gynecology MFM. 2024, 6:101328.