RECURRENT CESAREAN SCAR PREGNANCY : A CASE REPORT

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ABSTRAK
CSP adalah jenis kehamilan ektopik di mana kantung kehamilan tertanam di dalam bekas luka operasi caesar sebelumnya. Kehamilan pada bekas luka sesar adalah bentuk kehamilan ektopik di mana kantung kehamilan menempel pada bekas luka dari operasi sesar sebelumnya, dengan insidensi 1:1800 hingga 1:2500 kehamilan. Penundaan diagnosis dapat meningkatkan morbiditas dan komplikasi seperti spektrum placenta accreta, robekan rahim, pendarahan parah, dan kematian. Kami melaporkan kasus seorang wanita berusia 41 tahun, G4P2A1 (EP1), hamil 6 minggu 2 hari dengan kehamilan ektopik pada bekas luka sesar yang berulang. Pasien memiliki riwayat dua operasi sesar dan satu kehamilan pada bekas luka sesar sebelumnya yang menjalani terapi Methotrexate (MTX) diikuti dengan prosedur dilatasi dan kuretase pada tahun 2019. Ultrasonografi menunjukkan bahwa kantong kehamilan terletak di bekas luka sesar dengan denyut jantung janin 129 kali per menit. Dalam kasus ini, Methotrexate diberikan, diikuti dengan reseksi bedah dan rekonstruksi bekas luka sesar. Pasien pulang dalam kondisi baik tanpa komplikasi setelah 3 hari perawatan. Hasil patologi anatomi mengonfirmasi diagnosis kehamilan di bekas luka sesar. Pasien hamil, terutama yang memiliki riwayat kehamilan di bekas luka sesar sebelumnya, disarankan untuk menjalani pemeriksaan ultrasonografi pada trimester pertama untuk menentukan lokasi kehamilan. Diagnosis dini kehamilan di bekas luka sesar dapat mengurangi morbiditas dan komplikasi.

Kata kunci : berulang, CSP, kehamilan pada bekas luka sesar, ultrasonografi

ABSTRACT
CSP is a type of ectopic pregnancy in which the gestational sac implants within the scar of a previous cesarean section. Cesarean scar pregnancy is a form of ectopic pregnancy where the gestational sac implants in the scar from a previous cesarean section, with an incidence of 1:1800 to 1:2500 pregnancies. Delay in diagnosis increases morbidity and complications such as placenta accreta spectrum, uterine rupture, severe bleeding, and death. We report a case of a 41-year-old woman, G4P2A1 (EP1) 6 weeks 2 days pregnant with a recurrent cesarean scar pregnancy. The patient had a history of two cesarean sections and one pregnancy in a previous cesarean scar that underwent Methotrexate (MTX) therapy followed by a dilation and curettage procedure in 2019. Ultrasonography showed that the gestational sac was located in the cesarean scar with a fetal heart rate of 129 beats/minute. In this case, Methotrexate was given, followed by surgical resection and reconstruction of the cesarean scar. The patient went home in good condition without complications after 3 days of treatment. The results of the anatomical pathology confirmed the diagnosis of cesarean scar pregnancy. Pregnant patients, especially with a history of previous cesarean scar pregnancies, are advised to undergo an ultrasound examination in the early first trimester to determine the location of gestation. Early diagnosis of cesarean scar pregnancies can reduce morbidity and complications.

Keywords *: CSP, recurrent, pregnancy in a cesarean scar, ultrasonography*

INTRODUCTION

Cesarean section (CS) is a surgical procedure performed to deliver a newborn when vaginal delivery is contraindicated or cannot be achieved (Nuryana et al., 2024). World Health Organization (WHO) reports a significant rise in the number of pregnant women undergoing cesarean sections, even though the global average rate is estimated to be ideally around 10–15%. In Indonesia, the percentage is considerably higher—approximately 43%—making it one of the highest rates in Asia (Ashar & Kusrini, 2020). Cesarean scar pregnancy (CSP) is a form

of ectopic pregnancy where the gestational sac implants in the scar from a previous cesarean section, with an incidence of 1:1800 to 1:2500 pregnancies (Miller & Gyamfi-Bannerman, 2022).

The incidence has significantly increased during the last decades due to rising numbers of cesarean sections and worldwide use of transvaginal ultrasound (TVUS). Patients with a prior CSP are at higher risk of recurrence, with various rates ranging from 15.6% to 34.3% (Masihi et al., 2025; Timor-Tritsch et al., 2021). Early diagnosis and prompt treatment must be made to prevent morbidity and complications such as placenta accreta spectrum, uterine rupture, severe bleeding, and death. A study conducted by (Apriliyani et al., 2024) indicates that pregnancies with a previous cesarean scar are increasing as a result of the rising rate of cesarean deliveries. Therefore, clinicians should consistently inquire about a patient's obstetric history, particularly in those with recurrent miscarriages who have undergone curettage procedures. Therefore, the aim of this study is to identify and analyze the incidence, risk factors, and clinical impacts of pregnancies with recurrent cesarean scars, thereby providing a basis for safer management and the prevention of complications in pregnant women with a history of previous cesarean section.

CASE REPORT

A 41-year-old asymptomatic woman, gravida 4, para 2, at 6 weeks 2 days of gestation presented to the outpatient clinic for the first antenatal care. She had a positive home pregnancy test. Past obstetric history included two cesarean sections, the last one performed 10 years ago, and one pregnancy in a previous cesarean scar that underwent Methotrexate (MTX) therapy followed by a dilation and curettage procedure in 2019. Upon physical examination, she was hemodynamically stable with absence vaginal bleeding. Her abdomen was soft, nontender, and not distended. Human chorionic gonadotropin was not performed. TVUS showed a gestational sac which was located in the niche of the previous cesarean scar site, with a fetal heart rate of 129 beats/minute and a crown-rump length (CRL) of 0.51 cm, corresponding to six weeks and two days of gestation. Both the uterine cavity and cervical canal were empty (Fig. 1). Both adnexa were normal and no free fluid in the pouch of Douglas was found. Color Doppler imaging demonstrated intense vascularity surrounding the gestational sac.

The patient wanted to preserve her fertility. After given informed consent, she was treated with one dose of intramuscular (IM) single dose regimen of MTX 80 mg (50 mg/m^2) and folic acid supplement. Subsequently, she was on follow-up with a weekly ultrasound scan. A repeat TVUS one week later showed a fetus with no cardiac activity. Due to the recurrence of ectopic pregnancy in a cesarean scar, surgical management was then chosen. Patient was admitted to the hospital for an elective laparotomy. During the surgery intact uterine serosa with the bulging thin uterine wall at the previous cesarean scar site was noticed (Fig. 2). Resection of the lesion with removal of retained products of conception was performed, followed by repair of the scar with interrupted sutures.

The postoperative course was uneventful and the patient was discharged from the hospital two days after the surgery. The results of the anatomical pathology confirmed the diagnosis of cesarean scar pregnancy. At two month follow-up visit TVUS showed completely restored myometrium of 9 mm in thickness at the cesarean scar site (Fig. 3). The patient was advised not to conceive for at least 6 months following MTX therapy to prevent teratogenicity as well as to ensure complete uterine scar healing. In addition, she was advised to undergo an ultrasound examination in the early first trimester because of a high incidence of ectopic site gestations in subsequent pregnancies.

Figure 1. Yolk Sac and CRL 0.51 cm Consistent with 6 + 2 Weeks of Gestation Located in the Niche of the Previous Cesarean Scar Site

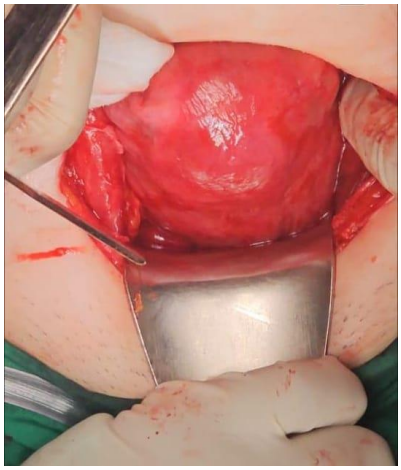

Figure 2. Intraoperative Note Bulging 3x2 cm at the Previous Cesarean Scar

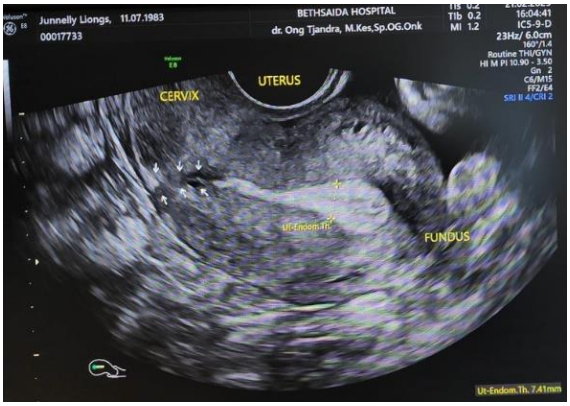

Figure 3. TVUS Image of the Uterus Two Months After the Surgery Demonstrates Completely Restored Cesarean Scar Site (Arrow)

DISCUSSION

CSP is a type of ectopic pregnancy where the gestational sac is implanted within a scar from a previous cesarean section (Timor-Tritsch et al., 2021). Although the exact mechanism of CSP is not clearly understood, it is thought that due to poor healing, implantation occurs within a microscopic dehiscence tract in the cesarean scar (Yiing et al., 2017). Risk factors include a history of cesarean delivery, multiple induced abortions, and a history of cesarean section at a regional hospital (Qian et al., 2014; Zhou et al., 2020). Our patient had two prior

cesarean sections and one CSP, which may have increased her risk for recurrent CSP. Patients with a prior CSP are at higher risk of recurrence, with various rates ranging from 15.6% to 34.3% (Masihi et al., 2025; Timor-Tritsch et al., 2021). Therefore, patients should be informed and counseled that there is a significant risk of recurrence and severe maternal morbidity, such as placenta accreta spectrum, uterine rupture, severe bleeding, and death. Our patient had recurrent CSP 5 years prior and was treated with MTX, followed by a dilation and curettage procedure.

The clinical symptoms may vary from being asymptomatic to painless or painful vaginal bleeding (Hameed et al., 2023; Miller & Gyamfi-Bannerman, 2022). In our case, the patient was asymptomatic. So, every woman with a history of uterine surgery should be screened early in the first trimester of pregnancy. TVUS and color flow Doppler remain the main modality to diagnose CSP (Hameed et al., 2023). Finding features include gestational sac or solid mass of trophoblast located anteriorly at the level of the internal os embedded at the site of previous lower uterine segment cesarean section scar, en empty uterine cavity, a thin or absent layer of myometrium between the gestational sac and the bladder, abundant peritrophoblastic blood flow in the area of the gestational sac as demonstrated by low pulse repetition Doppler study, and an empty endocervical canal (Bolanca et al., 2016; Valasoulis et al., 2022). In our case, the CSP was diagnosed at 6 + 2 weeks of gestation and met all ultrasonographic criteria.

Once diagnosed, expectant management in viable CSP is not recommended by the Society for Maternal-Fetal Medicine because of the high risk of severe maternal morbidity (Miller & Gyamfi-Bannerman, 2022). Termination of CSP can be achieved through medical and surgical approaches, including direct potassium chloride injection, local or systemic methotrexate, uterine artery embolization, the use of balloon catheters, laparoscopy, laparotomy, suction curettage guided by ultrasound, and combinations of these methods (Valasoulis et al., 2022). Conservative medical management can be opted for CSP patients who are hemodynamically stable. Methotrexate has been widely used for CSP treatment (Ndubizu et al., 2017). The patient in this case was hemodynamically stable and wanted to preserve her fertility, and thus a single regimen of systemic MTX was given with routine follow-up.

Laparotomy with wedge resection is indicated for hemodynamically unstable patients, in cases of failed medical management, or as a combination with medical treatment (Morlando et al., 2020; Ying An et al., 2024). This method is considered the best due to the complete removal of CSP under direct vision as well as minimizing the chance of recurrence of CSP. As seen in our case, the patient underwent MTX therapy followed by laparotomy with wedge resection and repair of the cesarean scar. At the two-month follow-up visit, TVUS showed a completely restored cesarean scar site. Should a patient with a history of CSP become pregnant, close ultrasound monitoring is recommended to allow early diagnosis of recurrent CSP (Kinsey, 2024; Mohapatra & Samantray, 2021). Thus, appropriate management can be taken to reduce morbidity and complications. The results of this study are consistent with research conducted by (Apriliyani et al., 2024), which stated that the incidence of pregnancies with cesarean scars continues to increase due to the high rate of cesarean deliveries. Therefore, physicians should always inquire about a patient's past obstetric history, especially in those with recurrent miscarriages who have undergone curettage procedures

CONCLUSION

Pregnant patients, especially with a history of previous cesarean scar pregnancies, are advised to undergo an ultrasound examination in the early first trimester to determine the location of gestation. Early diagnosis of cesarean scar pregnancies can reduce morbidity and complications.

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