

Cesarean Scar Pregnancy

Erhan Hüseyin CÖMERT,^a
 Hidayet ŞAL,^a
 Hakan KIZILET,^a
 Yasin Semih EKİCİ,^a
 Emine Seda GÜVENDAĞ GÜVEN,^a
 Süleyman GÜVEN^a

^aDepartment of Obstetrics and Gynecology,
 Karadeniz Technical University
 Faculty of Medicine,
 Trabzon

Received: 23.11.2016
 Received in revised form: 26.12.2016
 Accepted: 27.12.2016
 Available online: 15.02.2018

Correspondence:
 Erhan Hüseyin CÖMERT
 Karadeniz Technical University
 Faculty of Medicine,
 Department of Obstetrics and Gynecology,
 Trabzon, TURKEY
 erhan.comert@hotmail.com

ABSTRACT Cesarean scar pregnancy (CSP) is one rare form of the ectopic pregnancies. The incidence of CSP is increasing because the rates of cesarean delivery has increased in recent years. The mechanism of this rare condition may be explained with myometrial invasion. Endometrial and myometrial separation, scarring due to cesarean section scar, endometrial and myometrial line disruption are the main basis for the pathophysiology of caesarean scar pregnancy. Painless vaginal bleeding, abdominal pain, pain secondary to abdominal bleeding are the most common symptoms. It is a life-threatening emergency that must be rapidly diagnosed and quickly treated. A 38-years-old woman was admitted to the gynecology outpatient clinic because of vaginal bleeding. A cesarean scar pregnancy was diagnosed with transvaginal and abdominal ultrasonography. Systemic methotrexate therapy was applied and pregnancy was terminated with suction curettage under the guide of ultrasonography. In this case, we present a case of cesarean scar pregnancy that was diagnosed and treated in our clinic.

Keywords: Cesarean section; dilatation and curettage; methotrexate; pregnancy complications; pregnancy, ectopic

Cesarean scar pregnancy (CSP) is rare form of ectopic pregnancy, the incidence of cesarean section scar pregnancy is 1:1800 to 1:2216.¹ The mechanism of this rare condition may be explained with myometrial invasion. This invasion develops after history of dilatation / curettage (D&C), myomectomy, uterine surgery or as a result of previous caesarean section.² This rare form of ectopic pregnancy must be considered in the differential diagnosis because it has significant risk factors. The life-threatening complications can be prevented with early diagnosis and treatment. In this case report, we present a case of cesarean scar pregnancy that was diagnosed and treated in our clinic.

CASE REPORT

A 38-years-old (gravida 2 parity 1) woman admitted to the gynecology outpatient clinic because of vaginal bleeding. She has a history of one cesarean birth. A cesarean scar pregnancy was diagnosed with transvaginal and abdominal ultrasonography. Gestational sac (GS) was adjacent to the incision area of anterior uterine wall and it contained fetus compatible with 7 weeks 4 days. 5 mm GS located in previous cesarean scar is shown by ultrasonography (Figure 1). Fetal heart activity did't observed. A single dose of systemic methotrexate (50 mg/m²) (MTX) therapy was applied. Level of β -hCG was measured 10.000 mIU/ml at the beginning. Howe-

ver, we observed increasing level of the serum β -hCG during follow-up, it was measured 30.642 mIU/ml after methotrexate administration and therapeutic curettage was planned. Pregnancy was terminated with suction curettage by ultrasonography guide. Level of β -hCG was measured 16.009 mIU/ml after curettage. We observed decrease level of serum β -hCG during the follow-up period and it was measured as low as 5.11 mIU/ml. The patient was discharged with good health status.

DISCUSSION

Rates of cesarean birth is increasing in recent years, for this reason incidence of cesarean section scar pregnancy is rising.² Endometrial and myometrial separation, scarring due to cesarean section scar, endometrial and myometrial line disruption are the main basis for the pathophysiology of cesarean scar pregnancy.² Painless vaginal bleeding, abdominal pain, pain secondary to abdominal bleeding are the most common symptoms. Some patients are asymptomatic, and CSP can be detected during routine ultrasonographic evaluation.³ The gestational age should be at least 5th-6th weeks of gestation for the diagnosis of CSP with ultrasonography. In rare cases, CSP was diagnosed in the 16th week of gestation.^{4,5} The 37% of the cases were detected incidentally.³ Our case was also admitted to our hospital with vaginal bleeding. Transvaginal and abdominal ultrasonography are suggested for the

diagnosis of CSP, because it enabled to the panoramic view of the uterus.⁶ Diagnostic criterias on transvaginal ultrasonography were 1) empty uterine cavity, 2) empty cervical canal, 3) weak myometrial layer between GS and bladder, 4) interruption monitoring on the anterior wall of the uterus on sagittal image.^{1,2,7} In our case, we diagnosed CSP by using transvaginal and abdominal ultrasonography. Methotrexate therapy (direct or systemic), uterine wedge resection by laparoscopy or laparotomy, D&C, abortion accompanied by hysteroscopy, uterine artery embolization were used in the treatment of CSP.²⁻⁴ According to local application in systemic practice, some side effects of MTX can be observe such as nausea, vomiting, mucositis, itching, blurred vision, joint and muscle pain, gastric or abdominal pain, swollen gums, hair loss, skin rash, fever, headache, seizures, neutropenia, cystitis and pneumonia.⁸ The main reason for decreasing β -hCG levels following pharmacological treatment late, is the surrounding fibrous tissue pattern of GS. We can observe massive bleeding as a result of uterine rupture, increased risk of rupture were reported in the following pregnancies as a possible complication.² It has been reported serious bleeding as a result of D&C in 76.1% of patients.³ Some studies suggested wedge resection of defected uterine section as a surgical treatment. Wedge resections by laparotomy should be preferred for the preservation of fertility and to prevent recurrence.^{7,9} In our case, we used systemic methotrexate therapy as a first line treatment, but we couldn't achieve any success by pharmacologic therapy and gestational sac was removed by D&C, and there was no complication.

Cesarean scar pregnancy is one of the rare form of ectopic pregnancies and the rate of CSP is increasing in recent years. Delay in diagnosis of CSP can lead to life threatening condition. GS localization should be identified early by transvaginal ultrasound who has a history of cesarean scar pregnancy. Cesarean scar pregnancies should be kept in mind among the differential diagnosis in high risk pregnancies. It is a very rare form pregnancy, treatment modalities of CSP were presented as case reports in the literature and there is no full consensus. Early diagnosis and treatment is very im-

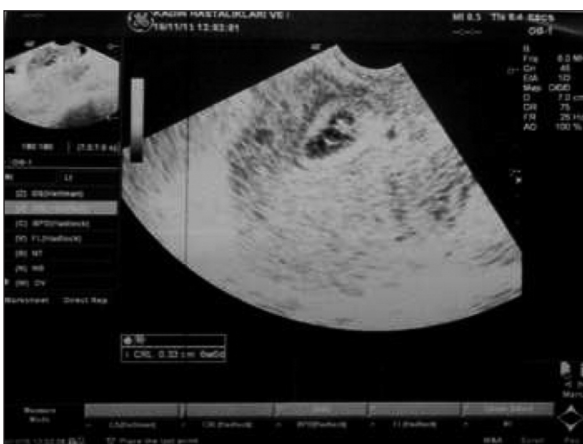


FIGURE 1: 5 mm gestational sac located in previous cesarian scar.

portant to prevent serious complications. In studies, methotrexate therapy or methotrexate therapy with dilatation/curettage can preserve fertility and enable us to avoid from laparotomy and it also needs more time for decreasing of β -hCG levels and the solution of the mass.^{4,10}

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, ex-

pertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Erhan Hüseyin Cömert, Süleyman Güven, Emine Seda Güvendağ Güven, Hidayet Şal; **Design:** Erhan Hüseyin Cömert, Hidayet Şal; **Control/Supervision:** Süleyman Güven, Emine Seda Güvendağ Güven; **Data Collection and/or Processing:** Erhan Hüseyin Cömert, Hidayet Şal, Süleyman Güven, Emine Seda Güvendağ Güven, Yasin Semih Ekici; **Analysis and/or Interpretation:** Erhan Hüseyin Cömert, Hidayet Şal, Süleyman Güven, Emine Seda Güvendağ Güven, Hakan Kızılet; **Literature Review:** Erhan Hüseyin Cömert, Hidayet Şal, Yasin Semih Ekici; **Writing the Article:** Erhan Hüseyin Cömert, Hidayet Şal; **Critical Review:** Süleyman Güven, Emine Seda Güvendağ Güven; **References and Fundings:** Süleyman Güven, Emine Seda Güvendağ Güven; **Materials:** Erhan Hüseyin Cömert, Süleyman Güven, Emine Seda Güvendağ Güven, Hakan Kızılet.

REFERENCES

- Jurkovic D, Hillaby K, Woelfer B, Lawrence A, Salim R, Elson CJ. First-trimester diagnosis and management of pregnancies implanted into the lower uterine segment cesarean section scar. *Ultrasound Obstet Gynecol* 2003; 21(3):220-7.
- Maymon R, Halperin R, Mendlovic S, Schneider D, Vaknin Z, Herman A, et al. Ectopic pregnancies in caesarean section scars: the 8 year experience of one medical centre. *Hum Reprod* 2004;19(2):278-84.
- Rotas MA, Haberman S, Levгур M. Cesarean scar ectopic pregnancies: etiology, diagnosis, and management. *Obstet Gynecol* 2006; 107(6):1373-81.
- Seow KM, Huang LW, Lin YH, Lin MY, Tsai YL, Hwang JL. Cesarean scar pregnancy: issues in management. *Ultrasound Obstet Gynecol* 2004;23(3):247-53.
- Smith A, Ash A, Maxwell D. Sonographic diagnosis of cesarean scar pregnancy at 16 weeks. *J Clin Ultrasound* 2007;35(4): 212-5.
- Chao A, Chao A, Wang CJ. Cesarean scar pregnancy: an emerging challenge. *J Med Ultrasound* 2008;16(4):268-71.
- Flystra D. Ectopic pregnancy within a cesarean scar: a review. *Obstet Gynecol Surv* 2002;57(8):537-43.
- Cok T, Kalayci H, Ozdemir H, Haydardedeoglu B, Parlakgumus AH, Tarim E. Transvaginal ultrasound-guided local methotrexate administration as the firstline treatment for cesarean scar pregnancy: follow-up of 18 cases. *J Obstet Gynaecol Res* 2015;41(5): 803-8.
- Vial Y, Petignat P, Hohlfield P. Pregnancy in a cesarean scar. *Ultrasound Obstet Gynecol* 2000;16(6):592-3.
- Wang JH, Xu KH, Lin J, Xu JY, Wu RJ. Methotrexate therapy for cesarean section scar pregnancy with and without suction curettage. *Fertil Steril* 2009;92(4):1208-13.