

Management of a Viable Ectopic Pregnancy on Caesarean Scar After IVF-ET Procedure: A Case Presentation

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To present the management of a viable ectopic pregnancy on caesarean scar following IVF-ET procedure. A 33-year old woman with gravida 2, parity 1 admitted to our outpatient clinic in her 8th weeks of gestation. She had a previous caesarean section 4 years ago. Transabdominal ultrasound examination revealed empty uterine cavity and cervical canal, but an intramural viable gestation near the cesarean scar. Laparotomy was performed. The gestational sac was bulging and thinning out the uterine wall anteriorly at the scar site. We evacuated the products of conception and repaired scar. After 2 hours from the operation an abundant vaginal bleeding occurred and an emergent relaparotomy performed. No active bleeding focus could be detected but bilateral uterine arteries were ligated. As a result, caesarean scar pregnancy is a highly complicated type of ectopic pregnancy and should be kept in mind during routine obstetric practice.

Key Words: Ectopic pregnancy, Caesarean scar, Laparotomy

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Introduction

Caesarean scar pregnancy is defined as an ectopic pregnancy implanted in the myometrium of a previous caesarean scar. It is one of the rarest forms of ectopic pregnancy, which was first reported by Larsen and Solomen in 1978.¹ The possible incidence of this abnormality ranges from 1:1800 to 1:2200 pregnancies and it has a rate of 0.15% in women with a previous caesarean section delivery.^{2,3} This serious complication must be suspected in a pregnant woman with previous uterine scar when early ultrasound show a gestational sac that is implanted anteriorly in the lower uterine segment, near the uterine scar. Early diagnosis of this complication is essential to avoid serious complications such as severe hemorrhage which may require hysterectomy and endanger the woman's life.

We aimed to present a case which includes the laparotomic management of a viable cesarean scar ectopic pregnancy after invitro fertilization-embryo transfer.

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Case Report

A 33-year old gravida 2, parity 1 women was admitted to our outpatient clinic in her 8th weeks of gestation. Transabdominal ultrasound examination revealed empty uterine cavity and empty cervical canal, but a hypoechoic gestational sac was observed in the anterior abdominal wall of the uterine isthmus that protruded through the uterine serosa. The sac was located very close to the bladder (Figure 1). The fetus had the cardiac activity with a 5 mm of crown-rump length. In her obstetric history, both the first and existing pregnancies were after IVF-ET procedure and she had a previous caesarean section electively, which was performed 4 years ago. At presentation to our hospital, vital signs were stable and physical examination was normal. Complete blood count and liver/renal function test results were normal. The diagnosis of ectopic pregnancy on the previous caesarean scar was made. We informed the patient about her situation and discussed what we could do. We decided to give a chance to this fetus. We hospitalized the patient for two weeks, and observed whether the fetus could move towards the fundus with the enlarging uterus. But any change in the localization did not occur. A laparotomy was performed with pfannenstiel incision under general anesthesia. The gestational sac was seen bulging and thinning out the uterine wall anteriorly at the scar site (Figure 2). We evacuated the products of conception and repair the scar. After 2 hours from the operation an abundant vaginal bleeding occurred and an emergent relaparotomy performed. No active bleeding focus could be seen but bilateral uterine arteries are

ligated. The patient took 2 units of erythrocyte suspension and discharged post operative 5th day with cure.



Figure 1: The sac was located very close to the bladder

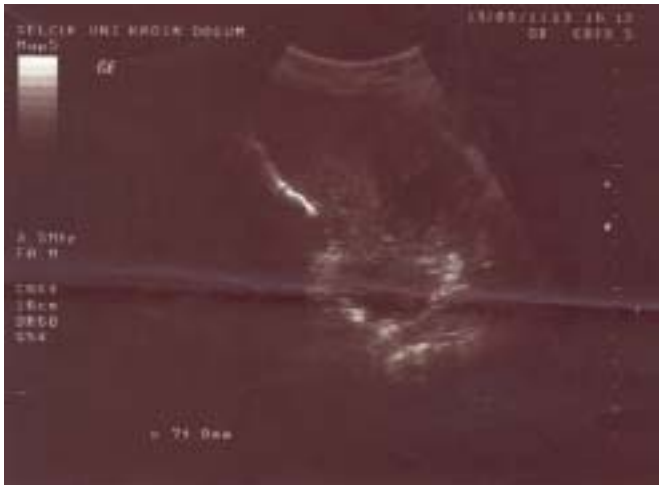


Figure 2: The gestational sac was seen bulging and thinning out the uterine wall anteriorly at the scar site

Discussion

The high prevalence of caesarean section is closely related to the increasing number of caesarean scar pregnancies. It is possible that this complication is related to the poor healing of the cesarean section scar and the implantation of the gestational sac into it. It may also result from a defect in the endometrium caused by trauma created by minor procedures as embryo transfer in the assisted reproductive technology.⁴

Transvaginal sonography facilitates diagnosis of location, age, size and viability of an ectopic pregnancy in a uterine scar. Ultrasound criteria for diagnosis include empty uterus, empty cervical canal and a discontinuity on the anterior wall of the uterus demonstrated on a sagittal plane of the uterus running through the amniotic sac.⁵ Most cases may present

from as early as 5-6 weeks, with a mean gestational age 7.5 ± 2.5 weeks, and have a silent clinical course or abnormal vaginal bleeding without abdominal discomfort. Late presentation would include vaginal bleeding with abdominal pain or acute abdomen when the scar ruptured. We diagnosed our case during her routine controls and she had no abnormal symptoms. Many cases may be misdiagnosed, leading to uterine curettage, followed by massive hemorrhage. Rarely, such a pregnancy may be carried to the advanced stage of 35 weeks of gestation without endangering the patient; this reported pregnancy was terminated traumatically by hysterectomy, when profound hemorrhage and disseminated intravascular coagulopathy developed during an emergency caesarean section.⁶

Since caesarean section pregnancy is so rare, a consensus about treatment does not exist. Treatment thus must be individualized according to the sac size, presence of fetal heart, β -hCG level, the desire for future fertility and the experience and facilities available. Different treatment methods have been reported, including expectant management, dilatation and curettage (D&C) under ultrasound guidance, local or systemic injection of methotrexate (Mtx), uterine artery embolization hysteroscopy, laparotomy or laparoscopic excision, and even hysterectomy. The use of expectant management for caesarean scar pregnancy has been reported by Jurkovic et al.⁷ Fourtyfour percent of caesarean scar pregnancy ended in spontaneous first-trimester miscarriage. We don't use this approach routinely because of the high risk of subsequent uterine rupture and massive bleeding, and life threatening complications in women with caesarean section pregnancy. D&C is contraindicated in ectopic pregnancy located in a previous caesarean section scar. This procedure may cause uterine perforation, and may eventually lead to hysterectomy.⁸ Rotas et al. reviewed 21 cases treated primarily by dilation and curettage.⁹ Only 5 were uncomplicated and needed no further treatment. In the remaining 16 cases, hysterectomy was done in 3 cases due to severe bleeding. The rest were required systemic methotrexate or laparotomy and excision of the mass. However, Arslan et al.¹⁰ described a successful suction-aspiration of the viable ectopic scar material under ultrasound guidance, without any difficulty at the seventh week of pregnancy without any additional Mtx treatment. Therefore D&C should not be a first line therapeutic option because of its severe bleeding complication so we did not prefer for our case. Wang et al.¹¹ propose to consider endoscopy if the diagnosis of caesarean scar pregnancy is made in the first trimester. Its prognosis is good, and fertility can be preserved. However, high quality equipment and an experienced endoscopic surgery team are essential for the success of this method. Ozkan et al.¹² performed a hysteroscopic resection of a caesarean scar ectopic pregnancy following an unsuccessful treatment course of systemic methotrexate and proposed this to be a successful treatment modality with minimal morbidity allowing the

preservation of future fertility. Some authors prefer to use uterine artery embolization (UAE) in order to minimize blood loss. Yan reported four cases in three of them UAE was used either following systemic or before local administration of Mtx.¹³ Although UAE appears promising in treating stable cases, it is too early to be recommended as a primary line of therapy. Most clinicians believe that primary surgical treatment by laparotomy and hysterotomy immediately upon confirmation of the diagnosis caesarean scar ectopic pregnancy of might be the best option; especially when there is a suspect of uterine rupture. Excision of the old scar is thought to reduce the risk of dehiscence and recurrence.¹⁴ However, it has the disadvantage of producing a larger surgical wound, and it results in longer hospitalization and recovery periods. In our case although her condition was stable yet laparotomy was selected as a line of management as the mother did not want to have a prolonged follow up period.

In conclusion; caesarean scar pregnancy is a very rare and highly complicated type of ectopic pregnancy and a pregnancy implanted into a caesarean scar have to be recognized during routine obstetric practice. No universal treatment guidelines have been established, due to the rarity of caesarean scar pregnancy. The treatment varies according to the symptoms, gestational age, variable fetus, peritrophoblastic vascularization, and the option of the patient.

IVF-ET Prosedürü Sonrası Sezaryen Skarı Üzerinde Oluşan Canlı Ektopik Gebeliğin Yönetimi: Olgu Sunumu

Bu vaka sunumunda, IVF-ET prosedürünü takiben sezaryen skarı üzerinde oluşan canlı ektopik gebeliğin yönetimi sunulmuştur. 33 yaşında gebelik 2, parite 1 olan hasta 8 haftalık gebeliğine yönelik olarak gebe polikliniğine başvurdu. Hastanın 4 sene önce sezaryen ile canlı doğum yaptığı öğrenildi. Transabdominal ultrasonografi incelemesinde, uterin kavitenin ve servikal kanalın boş olduğu, bunun yanında sezaryen skarı yakınında canlı intramural gebelik saptandı. Laparotomi yapıldı, batin gözleminde gestasyonel kesenin skar hattında anterior uterin duvarı inceltiltiği ve buradan bombeleştiği izlendi. Konsepsiyon ürünleri aspire edildi ve skar onarıldı. Ameliyattan 2 saat sonra hastada abondan vaginal kanama saptanması üzerine acil relaparotomi planlandı. Aktif kanama odağı saptanmasa da bilateral uterin ligasyon yapıldı ve kanama kontrolü sağlandı. Sonuç olarak, sezaryen skarı üzerinde gelişen ektopik gebelik oldukça komplike bir ektopik gebelik olup, rutin obstetri pratiğinde akıldta tutulmalıdır.

Anahtar Kelimeler: Ektopik gebelik, Sezaryen skarı, Laparotomi

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