CASE REPORT

Cesarean Scar Ectopic Pregnancy

Dr. Nidhi Nayak*, Dr. Rinky Agrawal, Dr. Prerak Modi**,Dr. A. U. Mehta*****

*Resident doctor, **Assistant professor, **Assistant professor, ***Professor and Head of Department,

Department of Obstetrics and Gynecology, Civil hospital, Ahmedabad

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ABSTRACT

Cesarean scar ectopic pregnancies are a rare form of extrauterine pregnancies, but with the increasing rates of cesarean sections the incidence of cesarean scar ectopic pregnancies is increasing. Similar to other ectopic pregnancies, cesarean scar ectopic pregnancies pose a great risk for maternal hemorrhage and ultimately maternal mortality. This study presents the case of a cesarean scar ectopic pregnancy in a patient with 2 prior cesarean deliveries. Here, we highlight the importance of early diagnosis and treatment of cesarean scar ectopic pregnancies.

INTRODUCTION

An ectopic pregnancy is a pregnancy that occurs outside of the uterine cavity.[2,8] Ectopic pregnancies occur in approximately 1-2% of all the pregnancies in India. While the presentation of ectopic pregnancy can be variable, its most common sign is vaginal bleeding in early pregnancy.[13]

Further, ectopic pregnancy accounts for 6% of all pregnancy-related deaths and is the highest contributor to hemorrhage-related deaths.[2,5] Risk factors for an ectopic pregnancy include a prior extrauterine pregnancy, use of assisted reproductive technology, history of tubal ligation, increased maternal age, intrauterine contraceptive devices, and active sexually transmitted infection.[4,8] Despite these known risk factors, however, many women may present without any of these characteristics.[2]

The most common location for an ectopic pregnancy is in the ampulla of the fallopian tube.[2,8] However, an ectopic pregnancy can also occur in locations like the interstitium, cervix, ovaries, and abdomen.[8] Cesarean scar pregnancies are rare, occurring in approximately 1 in 2000 pregnancies, although the incidence is increasing.[8,6] The increasing rate of cesarean scar ectopic pregnancies mirrors the increasing rate of cesarean delivery. The risk for a cesarean scar ectopic does not necessarily increase with the number of cesarean deliveries. Disruption of the endometrium and myometrium after cesarean delivery predisposes to improper implantation at the site of the prior hysterotomy. Without normal surrounding myometrium, untreated cesarean scar ectopic pregnancies can result in uterine rupture with severe maternal hemorrhage and death.

CASE REPORT

A 30-year-old woman (G4P2A1L2) presented from an outside facility with vaginal bleeding and discharge. The patient had opted for medical termination of pregnancy without consulting a doctor and without ultrasonography, and then presented with complain of continuous bleeding to outside facility where an attempt was made for dilatation and evacuation but there was excessive bleeding so the patient was referred to our institute. The patient had a history of 2 cesarean deliveries in the past due to fetal distress in her first pregnancy and non progression of labor in subsequent cesarean deliveries. Her most recent pregnancy was 5 years prior to presentation. She had no other significant medical history, had regular menses, and had no history of sexually transmitted infections. Three weeks prior to presentation, a transvaginal ultrasound at an outside obstetrics appointment suggested an intrauterine pregnancy at 7 weeks and 0 days with findings suggestive of blighted ovum.

At presentation, her vitals were within normal limits and stable. Physical exam was only notable for spotting per vaginum and closed cervix on speculum evaluation. The patient's hemoglobin was low and hematocrit was within normal limits, and her white blood cell count was normal. At the facility, she had a transvaginal ultrasound that showed a 65 x 60 mm sized heterogeneously echotextured lesion without internal vascularity in the lower uterine segment suggestive possibility of clot or retained products of conception at the level of previous scar. Transvaginal ultrasound did not reveal free fluid in the pelvis.

Correspondence Address : **Dr. Rinky Agrawal**
A-203, Shukan Residency, New S.G. Road, Nr. Vandematram City, Gota,
Ahmedabad-382481. • E-mail : rinkyagrawal1@gmail.com

After discussion with the patient regarding her imaging findings, potential possibility of cesarean scar pregnancy, the possibility of obstetric hysterectomy, the patient was taken for dilatation and evacuation and SOS for laparotomy under general anesthesia with full preparation of obstetrics hysterectomy . Per operatively during the D & E procedure placental tissues being adherent to the scar was felt and sudden excessive gush of blood was seen suggestive of cesarean scar ectopic pregnancy. She underwent an uncomplicated obstetric hysterectomy. Per operatively fundus and upper part of the uterus was normal and there was bulge with vascularity over scar. Bladder was dissected out anteriorly. As a per operative finding left sided hydrosalpinx was noted. Right tube and ovaries were normal.3 pints PCV were given. Post operative events were uneventful Histopsthology report of the specimen showed invasion of myometrium by normal placental villi and trophoblastic cells along with vascular wall hyalinization and fibrin deposition in stroma with areas of hemorrhage and necrosis. She was discharged postoperative day 7 after suture removal.

DISCUSSION

Here, we present the case of a patient with 2 prior cesarean deliveries who presented with a cesarean scar ectopic pregnancy. She was diagnosed via transvaginal ultrasound and per operatively, and she underwent surgical management.

It is important to have a high clinical suspicion for a cesarean scar ectopic in a patient who presents with first trimester bleeding and multiple previous cesarean deliveries. Although the incidence of cesarean scar ectopic pregnancy is uncommon, its incidence is indeed increasing given the rise of cesarean deliveries [8, 6]. These pregnancies are life-threatening as they pose a great risk for maternal hemorrhage. Thus, it is important to identify and treat cesarean scar ectopic pregnancies to avoid significant morbidity and mortality (Figs 1, Figs. 2, Fig. 3).

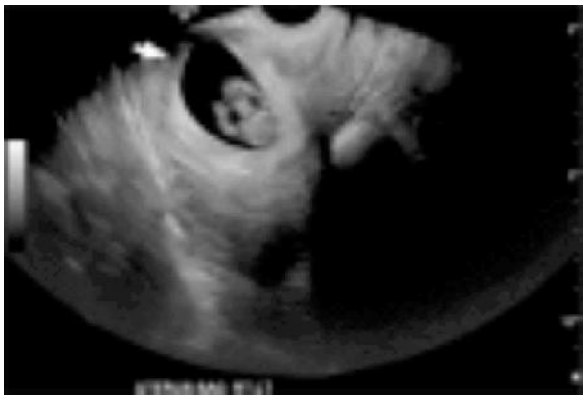

Fig. 1

Sagittal transvaginal ultrasound showing an ectopic cesarean scar pregnancy (EGA 7 weeks, 0 days). The arrow indicates thinning of the anterior aspect of the myometrium.

Criteria for the diagnosis of scar ectopic pregnancy are:(1) an empty uterine cavity and cervical canal, (2) a gestational sac located at the anterior wall of the isthmic portion , separated from endometrial cavity or fallopian tube in previous cesarean scar, (3) a gestational sac embedded within the myometrium and the fibrous tissue of cesarean scar at the lower uterine segment with an absence of defect in the myometrium between the bladder and the sac and (4) a high velocity low impedance vascular flow surrounds the gestational sac.[11,12]

Upon implantation on the uterine scar, cesarean scar ectopics can either extend into the cervico-isthmic space and into the uterine cavity or extend deeper into the myometrium toward to serosal surface of the uterus. Both forms can result in substantial hemorrhage, although the latter also precludes a viable pregnancy. Implantation of the placenta into the scar and myometrial thickness < 4 mm in the first trimester all resulted in cesarean hysterectomy for morbidly adherent placenta, with lower birth weight and earlier gestational age at delivery among those with implantation into the prior scar. An MRI may provide additional confirmation of the ultrasound findings and characterize the myometrial interface if the pregnancy is difficult to distinguish from other pregnancy complications such as a cervical ectopic pregnancy or consideration for expectant management of pregnancy is considered (Fig.4, Fig.5, Fig.6)

Fig. 2

Fig. 3

Intraoperative image of uterus, round ligament and fallopian tube. The cesarean scar ectopic is noted deforming the left lower anterior wall of the uterus with increased vascularity (***).

Specimen following abdominal hysterectomy. Products of conception is noted to the lower uterine segment.

Although ultrasound remains the primary imaging modality for this diagnosis, MRI may be useful in the setting of equivocal cases and also may aid in the detection of possible placental implantation or bladder wall invasion. Sagittal T2-weighted images are best for visualizing the cesarean section scar, which appears as low signal. Imaging features include thinning of the myometrium in the region of the scar next to a gestational sac with a correspondingly empty endometrial canal and cervix. Sagittal T2-weighted imaging can also be helpful in determining growth pattern of the gestational sac (ie whether it is primarily within the scar or within the isthmus). This may have implications in management and risk of rupture. Additionally, T1 pre contrast imaging may be helpful in the detection of blood products in the canal and pelvis.

The case presented here highlights the importance of early diagnosis and management of a cesarean scar ectopic pregnancy. This patient's presentation was similar to other case reports found in the literature. She presented with painless first trimester vaginal bleeding. This patient's gestational age is also consistent with previous studies indicating a presentation between 5 and 12 weeks of gestation. Imaging findings here demonstrate the eccentric location of the gestational sac, implantation of the placenta into the prior cesarean scar and thin residual (3 mm) myometrium. As the patient in this case study desired termination dilatation and evacuation was tried followed by laparotomy for abdominal hysterectomy.

In patients who desire fertility after treatment of an ectopic pregnancy, physicians can offer medical and more conservative surgical management uterine wedge dissection.[6] Systemic methotrexate with or without intrasac methotrexate can be used in patients with a gestational age of less than 8 weeks without fetal cardiac activity.[10] However, medical treatment alone may leave the cesarean scar defect unrepaired and susceptible to complications in subsequent pregnancies. Physicians should counsel patients who desire fertility, as 30% of these patients have difficulty conceiving after ectopic pregnancy treatment.[4] Moreover, physicians should discuss the long-term risks of these pregnancies on subsequent pregnancies including risk of recurrent ectopic pregnancy, uterine rupture, and placental attachment abnormalities.

CONCLUSION

In summary, there should remain a high clinical suspicion for a cesarean scar ectopic in a patient with a history of cesarean deliveries presenting with first trimester bleeding. These patients should be diagnosed with transvaginal ultrasound with confirmation with MRI if diagnosis is unable to be made via ultrasound. To prevent maternal hemorrhage, a patient presenting with a cesarean scar ectopic pregnancy should undergo prompt treatment depending on her clinical status and reproductive preferences.

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