Undiagnosed Cesarean Scar Pregnancy: A Nightmare

Shubhangi A Mande, Gauri A Dank, Swati S Shiradkar

ABSTRACT

Ectopic pregnancy is one of the leading causes of morbidity and mortality among fertile women. Cesarean scar pregnancy (CSP) is the rarest type of ectopic pregnancy. It is a life-threatening abnormal form of implantation of a gestational sac in the myometrium at the site of a previous cesarean scar. A case of 23-year-old woman with previous cesarean section, torrential hemorrhage during dilatation, and evacuation carried out for retained products of conception is being reported. The patient finally required hysterectomy to stop the hemorrhage. The provisional diagnosis of CSP was made during laparotomy and later confirmed by histopathological examination.

Keywords: Cesarean scar pregnancy, Methotrexate, Myometrium, Obstetric hysterectomy.

INTRODUCTION

Ectopic pregnancy is one of the leading causes of morbidity and mortality among fertile women, accounting for 9% of pregnancy-related deaths. Among ectopic pregnancy, there is a clinical entity called cesarean scar pregnancy (CSP). It is the rarest type of ectopic pregnancy. It is a life-threatening abnormal form of implantation of a gestational sac in the myometrium at the site of a previous cesarean scar.

Cesarean scar pregnancy was first described by Larsen and Solomon in 1978. It is estimated that CSP constitutes about 6% of all ectopic pregnancies in patients with a history of at least one cesarean section. The incidence of this pathology ranges from 1/1,800 to 1/2,200 pregnancies, and its prevalence rate is 0.15% in women with previous cesarean sections.

CASE REPORT

A 23-year-old woman, Gravida 2, para 1, living 1 (1 previous cesarean section), came to the hospital on August 8, 2015 with bleeding from the genital tract since 5 days. Her menstrual history did not reveal any period of amenorrhea. Last menstrual period narrated by the patient was 5 days back; previous cycle was on July 15, 2015. Past cycles were regular. On admission, the physical examination demonstrated the patient in good general health, pulse – 72/minute, blood pressure values – 110/80 mm Hg, respiratory rate – 16 breaths/minute. Systemic examination did not reveal any abnormality. Abdomen was soft and nontender. Bleeding through the Os was visible on the speculum examination. Bimanual examination revealed a softened and enlarged uterus of size of about 8 weeks gestation, and the Os was closed. The laboratory results showed hemoglobin – 11.7 gm/dL, hematocrit – 33.1%, red blood cells – 4.35 million/mL, platelet count of 3,34,000/mm. Blood group was B positive. Urine examination was normal. Urine pregnancy test was positive. Liver and kidney function tests were within the normal limits. Ultrasonography (USG) revealed retained products of conception and endometrial thickness of 13 mm.

In view of uterus size of 8 weeks (not correlated to her menstrual history) and bleeding through the os with USG report of retained products of conception, patient was posted for emergency evacuation and curettage. As soon as the dilator was introduced, torrential bleeding started. Attempt was made to evacuate the uterus with ovum forceps. Even after evacuation, bleeding continued despite giving uterotonics. There was no clinical suspicion of perforation. In view of history of previous cesarean, continuous bleeding, and some evidence of the products of conception being adherent to uterus at probable scar site, diagnosis of CSP was considered.

Decision of Laparotomy

A hysterectomy vertical incision was taken from the fundus downward and a trial for removal of products of conception was made with the Karman’s cannula introduced from above downward. Bleeding decreased transiently. Hence, the hysterectomy incision was closed with intermittent stitches with Vicryl in an attempt to conserve the uterus. Still the bleeding continued. Hence, obstetric hysterectomy was done. The estimated blood loss was 2000 mL. Intraoperative photograph and photograph of operative specimen are shown in Figures 1 and 2 respectively.

1Associate Professor, 2Assistant Professor, 3Professor and Head
1-3Department of Obstetrics and Gynecology, Mahatma Gandhi Mission Medical College, Aurangabad, Maharashtra, India
Corresponding Author: Gauri A Dank, Assistant Professor Department of Obstetrics and Gynecology, Mahatma Gandhi Mission Medical College, Aurangabad, Maharashtra, India Phone: +9199623723488, e-mail: sampark09@gmail.com
Patient had an uneventful postoperative recovery. She was given two packed cell transfusions postoperative. She was discharged from the hospital after 8 days with hemoglobin level of 9.2 gm/dL. Definitive histologic examination revealed the presence of mature chorionic villi infiltrating the myometrium. No gestational tissue was found in the entire uterine cavity.

DISCUSSION

Prior cesarean is not the only risk factor for CSP. A history of uterine infections and prior dilatation and curettage (D&C) procedures are also risk factors, as is a short interpregnancy interval after a cesarean. Treatment with in vitro fertilization may also be associated with CSP, although this is not clear. Some authors have speculated that recent uterine suturing technique changes (single layer, various suture materials) may have an effect, though there are little data to support or refute this. Obviously, having a prior cesarean scar is the most important risk factor for CSP. Transvaginal sonography is a useful tool for diagnosing CSP, probably in woman who underwent a previous cesarean section. An evaluation of the scar very early in pregnancy could help in early diagnosis of CSP. In this way, a conservative treatment of the uterus and of the reproductive function could be feasible by medical or surgical approach. Because the symptoms are unclear and easy to ignore at first, many cases of CSP go undetected initially. Even when the patient presents with symptoms to a care provider, the diagnosis may be missed. The 2012 review found that about 13% of CSPs are missed or misdiagnosed at first.

According to a recent 2012 review, the following sonographic findings should raise the suspicion level for a CSP:

- A triangular-shaped gestational sac;
- A gestational sac, i.e., close to the bladder and uterine wall, presentation of arteriovenous malformation in the area.

Pathological Aspects of CSP

The most recent data indicate that CSP and placenta accreta are the continuum of the same pathology rather than separate diseases. In CSP, the conception product can penetrate the endometrium through the microscopic dehiscences in the cesarean scar (Figs 3A and B). If the wait-and-see attitude is accepted in the first trimester of CSP, it is most likely to evolve into placenta percreta. In almost each case, this leads to postpartum hemorrhage and requires a hysterectomy. Early diagnosis and appropriate interventions are likely to substantially improve the prognosis.

It is important to diagnose scar pregnancy as early and accurately as possible, but it is very difficult because there are other clinical entities that can confuse, such as spontaneous abortion and/or cervicoisthmic pregnancy. The differential diagnosis of CSP and cervicoisthmic pregnancy is based on the absence of physiological myometrium between the bladder and the gestational sac in scar pregnancies.

TREATMENT OPTIONS

Available data suggest that termination of pregnancy shortly after the diagnosis of CSP is the treatment of choice in the first trimester. Postponed treatment is usually associated with poor prognosis. Cesarean scar pregnancy can lead to massive hemorrhages, uterine rupture, and disseminated intravascular coagulation or death. Treatment options of CSP include D&C as well as excision of trophoblastic tissues using laparotomy or laparoscopy. There are literature case reports describing successful treatment of
CSP by systemic and/or local administration of methotrexate (MTX) with subsequent D&C.

Conservative treatment can be considered the first-line treatment in many early, unruptured ectopic pregnancies. Treatment options include the following.

**Systemic Administration of MTX**

It is a standard treatment for tubal ectopic pregnancy. There should be no reason to doubt its efficacy on CSP.

**Local Injection of Embryocides**

This has been successfully reported with local injection of MTX, potassium chloride, hyperosmolar glucose, and crystalline trichosanthin.

**Combined Medical Treatment**

Combined medical treatment in varying regimens have been described by many authors, e.g., local injection of 8 mEq potassium chloride (2 mEq/mL) followed by 60 mg of MTX injected into the gestation sac.

Medical treatment – systemic or local, single agent or combined regimen – can interrupt the pregnancy, but symptoms can continue with bleeding, sometimes heavy. Also, it is difficult to rule out some scar dehiscence already developing at the time of treatment, as the very thin myometrium could be in a state of prerupture.

**Uterine Curettage**

To date, a total of 12 cases of CSP managed by uterine curettage as primary therapy have been reported in the English medical literature, and another 4 cases have been cited in a case series of 8 CSPs.

**Hysteroscopic evacuation**

In 2006, Wang et al have described a successful treatment of CSP by operative hysteroscopy and suction curettage, the first of its kind reported in English literature. At 4-week follow-up, serum human chorionic gonadotropin level became normal, with restoration of normal echotexture of the uterus on ultrasound scan. But this facility will not be available at all the places.

**Laparoscopic Removal**

Wang et al were the first to perform a successful laparoscopic resection of a CSP. The operative laparoscopy should be performed only after an ultrasound confirms the diagnosis of a CSP. During laparoscopic removal, the CSP mass is excised and the pregnancy tissue is removed in an endobag.

**Hysterectomy**

In a review until August 2002, hysterectomy was performed in 7 out of 19 cases. From then, six more hysterectomies have been reported in the literature either as a primary procedure or because other treatment modalities failed. This shows that CSP is a potentially serious condition despite advances in many of the diagnostic techniques and therapeutic measures.

Many cesareans are truly life-saving and necessary, and many others are probably prudent. However, cesareans are not without risks and should not be taken lightly. The extremely high cesarean rates in certain areas of this country and around the world have very distinct public health implications, both in the immediate period around the cesarean and for years afterward. In particular, the long-term implications of cesareans are underrecognized.
CONCLUSION

Without a high index of suspicion and correct early diagnosis, CSP can lead to uterine rupture and/or hysterectomy, with consequent maternal morbidity and loss of future fertility. If the location of such an implantation is misdiagnosed, a common gynecological operation, such as D&C can be met with catastrophic hemorrhage as happened in our case. Sonologists and trainee doctors should be aware of this condition. Senior obstetricians should be involved in the management plan. Since there is scarcity of reliable data, patients should be given information to make an informed choice for management.

REFERENCES