ORIGINAL RESEARCH PAPER

Obstetrics & Gynaecology

KEY WORDS: cesarean scar pregnancy, methotrexate, temponade, dilation and curettage, ectopic pregnancy, haemorrhage, sonography

CAESEREAN SCAR PREGNANCY- AN ENCOUNTER WITH THREE CASES

Namoijam Basanti

Junior Consultant Gynaecologist, Imphal Hospital and Research Centre

ABSTRACT

The term cesarean scar pregnancy describes implantation within the myometrium of a prior ceserean delivery scar. It is an uncommon type of ectopic pregnancy seen in women with history of one or more previous cesarean sections. The incidence is increasing due to the rise in the rate of cesarean deliveries. Up-to 40% of women are asymptomatic, and the diagnosis is usually made during routine sonographic examination[1]. The presentation may be varied, often misdiagnosed as inevitable or incomplete abortion. Cesarean scar pregnancy carries a risk of serious haemorrhage, particularly after an attempted evacuation of the products of conception. There is also risk of scar rupture. There is no single definitive modality of treatment. We are here reporting three cases of caesarean scar pregnancy, two managed conservatively and the third one by hysterectomy due to uncontrolled bleeding. There were no mortality among the three cases.

INTRODUCTION:

Ectopic pregnancy is defined as implantation of fertilized ovum at a site other than the normal uterine cavity. The overall prevalence of ectopic pregnancy is approximately 2%[14]. Cesarean scar pregnancy is a type of ectopic pregnancy where implantation occurs in the myometrium of a prior cesarean section scar. Its incidence is approximately 1 in 1800 normal pregnancies[1]. The diagnosis is usually made during a routine first trimester sonographic examination. According to Rotas et al[1], the mean gestational age of diagnosis of cesarean scar pregnancy is 7.5+/-2.5 weeks. The presentation may mimic low intra- uterine pregnancy, inevitable miscarriage, or cervical ectopic pregnancy. Attempt at suction curettage on clinical suspicion of inevitable miscarriage or incomplete abortion may lead to uncontrolled haemorrhage which may even require hysterectomy.

CASE REPORT:

I came across three cases of caesarean scar pregnancy in my practice. They were managed in different ways. There was no mortality among the cases.

CASE 1:

The first was a case of 39 years old G5P2+0+2+2 with previous two caesarean sections. She had history of two induced abortions for which dilatation and curettage had been done in both the cases. Diagnosis of cesarean scar pregnancy was made on routine sonographic examination at 7 weeks 2 days of gestation by her last menstrual period. On examination, uterus was around 6 weeks size, os was closed and there was no cervical motion tenderness. Dilation and evacuation was planned in operation theatre taking all precautions for hysterectomy in case of uncontrolled bleeding. The procedure went uneventful. The products of conception were carefully removed with ovum forceps. There was no bleeding seen. The patient was kept on observation for two days. She was discharged on the third day with no complaints. Follow up findings of the patient were found satisfactory.

CASE 2:

The second was a case of 34 years old G1P1+0+0+1, who presented at her 7 weeks 3 days of pregnancy with bleeding per vagina for 1 day. She was diagnosed with cesarean scar pregnancy by trans-vaginal ultrasound (Fig.1). Blood was arranged and patient was started on tablet misoprostol 200 mcg for 4 days but there was no response. So, she was given 3 doses of injection methotrexate alternating with leucovorin. Repeat ultrasound did not show any decrease in the size of the gestational sac, nor was there decrease in the size of the gestational sac. Accordingly, dilation and curettage was planned, during which, uncontrolled bleeding was seen. 1 PRBC was transfused. Bilateral descending cervical arteries were ligated, tight intra-vaginal packing was done, and bleeding was controlled. After few hours, she started bleeding again, which was controlled with intrauterine balloon tamponade using 16F foley's catheter inflated with 60 ml of normal saline. Another 2 PRBCs were transfused. The temponade was removed on day 3, but as she was bleeding again, it was reinserted. It was finally removed on the 3rd day of insertion with no more bleeding. The rest of the hospital stay remained uneventful. The patient was discharged on day 24 of admission. Patient showed improvement on follow up beta HCG values over a week and repeat ultrasound.

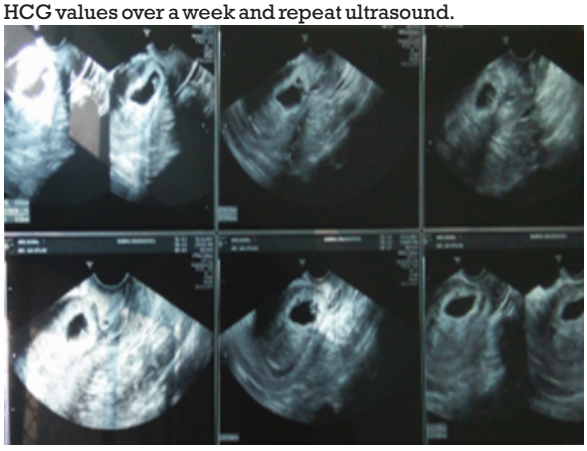

Fig.1. ultrasound picture of scar pregnancy (case 2)

CASE 3:

The third one was a 35 years old G3P1+0+1+1 retrovirus-reactive patient who presented with lower abdominal pain and bleeding per vagina for 2-3 days after a duration of pregnancy for 8 weeks 1day. On per vaginal examination, uterus was around 8 weeks size, os was open, bleeding was present and there was mild cervical motion tenderness. On clinical suspicion of inevitable miscarriage, evacuation was planned. But, during the procedure, torrential bleeding was encountered. The uterine cavity was soon packed with balloon temponade using a 16 F foley's catheter inflated with 50 ml of distilled water. But, as bleeding was uncontrolled, she was soon taken to operation theatre for laparotomy. Intra-operatively, a bulge was seen on the anterior wall of uterus in the region of the previous cesarean scar (as shown in Fig. 1.1, 1.2 and 1.3). Hysterectomy was done. 1 PRBC was transfused. Histo-pathological examination of the specimen confirmed the diagnosis of scar pregnancy. The patient recovered well and she was discharged on the 6th day of admission.

Fig. 1.1 A bulge seen on the site of the previous cesarean scar.

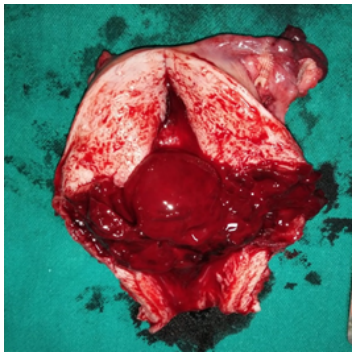

Fig. 1.2 longitudinal cut section of the specimen showed products of conception and blood clots adherent to the region of the previous cesarean scar.

Fig. 1.3 thinned out myometrium seen adjacent to the site of the pregnancy

DISCUSSION:

The term cesarean scar pregnancy describes implantation within the myometrium of a previous cesarean delivery scar. Incidence is approximately 1 in 1800 normal pregnancies and has increased alongside the cesarean delivery rate[1, 2]. However, there is no correlation with the number of previous cesarean and the risk of developing a scar pregnancy[18].

Pathogenesis is similar to that of placenta accreta and carries similar risk of serious haemorrhage[3]. The invasion of conceptus into the myometrium is believed to occur through a microscopic dehiscence or a defect in the uterine scar. Placental villi are anchored to the muscle fibers rather than to the decidual cells. There is also an increased vulnerability of the decidua to trophoblastic invasion following previous uterine incisions.

Women usually presents early in pregnancy with pain and bleeding. However, up-to 40% of women are asymptomatic and the diagnosis is made during routine sonographic examination[1]. Early rupture may rarely lead to an abdominal pregnancy[4].

Trans-vaginal sonography is the first line of diagnostic tool. It is inexpensive and easily available. Godin PA et al[7] described four sonographic criterias for the diagnosis of cesarean scar pregnancy. They include: 1) An empty intrauterine cavity; 2) An empty cervical canal; 3) Intrauterine mass in the anterior part of uterine isthmus; 4) Absence of healthy myometrium between the bladder and gestational sac. Magnetic Resonance Imaging is superior to ultrasound in diagnosis.

The clinical diagnosis can be very difficult and may occasionally be delayed until uterine rupture occurs. The differential diagnosis may include low intra- uterine pregnancy, cervical ectopic pregnancy or even inevitable miscarriage. Sometimes, the diagnosis remains inconclusive before intervention.

There is no single modality of treatment. The aim of treatment is removal of gestational sac along with preventing complications mainly bleeding and retaining future fertility. Fertility preserving options include systemic or locally injected methotrexate, either alone or combined with conservative surgery[3, 8, 9]. These conservative surgeries may be visually guided suction curettage or trans-vaginal aspiration, hysteroscopic removal, or isthmic resection. Attempt at dilation and curettage may lead to serious haemorrhage. Uterine artery embolization may be done pre-operatively to minimize haemorrhage. These surgeries may also be combined with systemic methotrexate. The other medical methods that may be tried are injection of Potassium Chloride into the sac, or injection of mifepristone with monitoring of beta HCG levels. Hysterectomy is an acceptable choice in those who wants sterilization. It is sometimes a necessary option with heavy uncontrolled bleeding.

CONCLUSION:

Trans-vaginal ultrasound is the gold standard for diagnosis. The gestational sac is located anteriorly at the level of the internal os, covering the visible or presumed site of caeserian section scar. There is no standard treatment protocol. Dilation and curettage in cases of CSP may lead to torrential haemorrhage. Patient may respond to expectant management, but some cases may require even hysterectomy. As such, treatment should be individualized.

REFERENCES:

1) Rotas M, Haberman S, Levgur M. Cesarean scar ectopic pregnancies: etiology, diagnosis, and management. Obstetrics and gynaecology. 2006 Jul;107(6):1373-81.
2) Ash A, Smith A, Maxwell D. Cesarean scar pregnancy. BJOG. 2007 Feb;114(3).
3) Timor-Tritsch IE, Khatib N, Monteagudo A, Ramos J, Berg R, Kovacs S. Cesarean scar pregnancies. Journal of ultrasound in medicine. 2015 Apr;34(4):
4) Teng HC, Kumar G, Ramli NM. A viable secondary intra-abdominal pregnancy resulting from rupture of uterine scar: role of MRI. Br J Radiol. Jul 2007;80(955):134-6.
5) Jurkovic D, Knez J, Appiah A, Farahani L, Mavrelos D, Ross JA. Surgical treatment of cesarean scar ectopic pregnancy: efficacy and safety of ultrasound- guided suction curettage. Ultrasound in Obstetrics and Gynaecology. Jan 2016;47(4).
6) Moschos E, Sreenarasimhaiah S, Twickler DM. First- trimester diagnosis of cesarean scar ectopic pregnancy. Journal of clinical Ultraound. Apr 2008;36(8).
7) Godin PA, Bassil S, Donnez J. An ectopic pregnancy developing in a previous cesarean section scar. Fertil Steril. Feb 1997;67(2):398-400.
8) Zhong XB, Zhong YC, Chi JC, Shen JL, Qiu JR, Zhao AM. Cesarean scar pregnancy: Treatment with bilateral uterine artery chemoembolism combined with dilation and curettage. J Int Med Res. Oct 2012;40(5):1919-30.
9) Yang XY, Yu H, Chu YX, Zheng A. Uterine artery embolization combined with local methotrexate for treatment of cesarean scar pregnancy. BJOG. Jun 2010.117(8):990-6.
10) Michener C, Dickinson JE. Cesarean scar ectopic pregnancy: a single centre case series. Australian and New Zealand Journal of Obstetrics and Gynaecology. Sep 2009;49(5).
11) Wang JH, Xu KH, Lin J, Wu RJ. Methotrexate therapy for cesarean section scar pregnancy with and without suction curettage. Fertility and sterility. Oct 2009;92(4):1208-1213.
12) Wu X, Zhang X, Zhu J, Di W. Cesarean scar pregnancy: comparative efficacy and safety of treatment by uterine artery chemoembolizat5ion and systemic methotrexate injection. European Journal of Obstetrics and Gynaecology and Reproductive Biology. Mar 2012;161(1):75-79.
13) Zhuang YL, Huang LL. Uterine artery embolization compared with methotrexate for the management of pregnancy implanted within a cesarean

scar. AJOG. Jun 2009;201(2):152
14) Pedraszewski P, Wlazlak E, Surkont G. Cesarean scar pregnancy- a new challenge for obstetricians. Journal of Ultrasonography.Mar 2018;18(72):56-62.
15) Shafqat G, Khandwala K, Afzal S. Cesarean scar pregnancy: An Experience of three cases with review of literature. Feb 2018;10(2):e2133.