

CASE REPORT

Laparoscopic Management of the Isthmocele

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ABSTRACT

With the increasing prevalence of cesarean rates, an unusual form of ectopic pregnancy is now emerging in clinical practice, the cesarean scar pregnancy (CSP), also known as isthmocele. In this rare form of ectopic pregnancy, gestational sac is implanted either partially or fully, within the scar of the previous cesarean. Diagnosis of CSP and its further management require considerable expertise in dealing with the pathology, and a multidisciplinary approach is required to prevent prolonged complications associated with the surgical management. Major hemorrhage from the implantation site during resection, which may end up in hysterectomy, is the main concern. We report a case of CSP who was referred to emergency outpatient department of Mahatma Gandhi Hospital (MGH) with amenorrhea, pain abdomen, and spotting per vaginum, as they could not localize the exact location of the pregnancy. She was diagnosed as CSP, and managed successfully by laparoscopic resection and repair of cesarean scar.

Keywords: Cesarean scar pregnancy, Ectopic pregnancy, Isthmocele.

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INTRODUCTION

Increasing prevalence of cesarean section (CS) worldwide has led to the emergence of an unusual type of ectopic pregnancy, which gets implanted in the scar of previous CS. The gestational sac gets implanted partially or fully within the scar of previous CS.

The first case was reported in 1978, and since then, the prevalence of CSP is increasing from 1/1,800 to 1/2,500 in various studies.¹ Till 2001, only 19 cases of CSP were reported, which increased to 161 by 2007.² More than 1,000 cases have been reported till date and the prevalence is expected to increase, partly because of increasing number of CS being done, better ultrasound diagnosis,

and also increasing awareness about this entity.³ For a pregnancy that develops in a previous CS, the possible serious complications are massive hemorrhage, uterine rupture, and secondary infection, which often require emergency hysterectomy.

CASE REPORT

A 20-year-old female, Gravida₂ Para₁ Live₁ 8 + 5 weeks period of gestation, was referred to MGH on October 28, 2017 with suspicion of tubal or cervical pregnancy, as the referring doctor was doubtful about intrauterine nature of the pregnancy. On history taking and examination, patient had amenorrhea 2 months 4 days and spotting per vaginum off and on. She had one full-term CS and her urine pregnancy test was about a month back. She visited a local doctor for the same and was prescribed folic acid and routine investigations were done. On ultrasound, a day before, the location of pregnancy was doubtful, so she was referred to our hospital. Her vital parameters on examination were within normal range. She was mildly anemic, abdomen was soft, on per vaginal exam, we found cervix forward uterus retroverted retroflexed 8-week size, and left fornices were found to be palpable, but no mass was there and it was nontender.

Transvaginal sonography (TVS) was done, and there was a single live fetus of 8 + 5 weeks at uterus cervical junction, which could be intrauterine, in lower uterine segment (LUS), intracervical pregnancy, or ectopic scar pregnancy (Fig. 1). Possibility of bicornuate/cornual pregnancy cannot be ruled out, as a thin layer of myometrium was seen around the gestational sac.

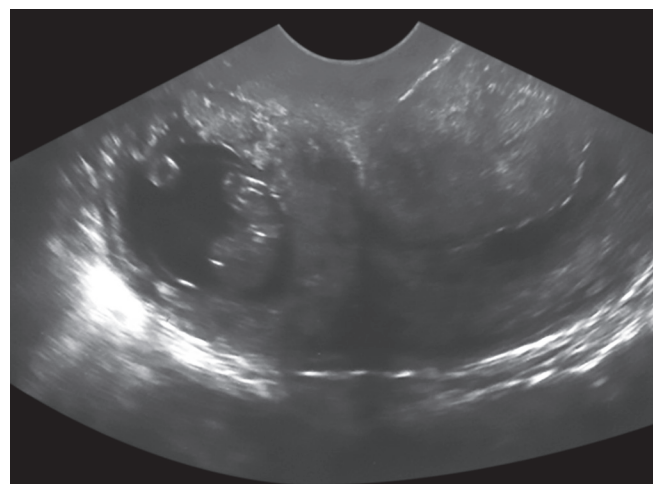


Fig. 1: TVS picture of the case

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Fig. 2: Diagnostic laparoscopic view

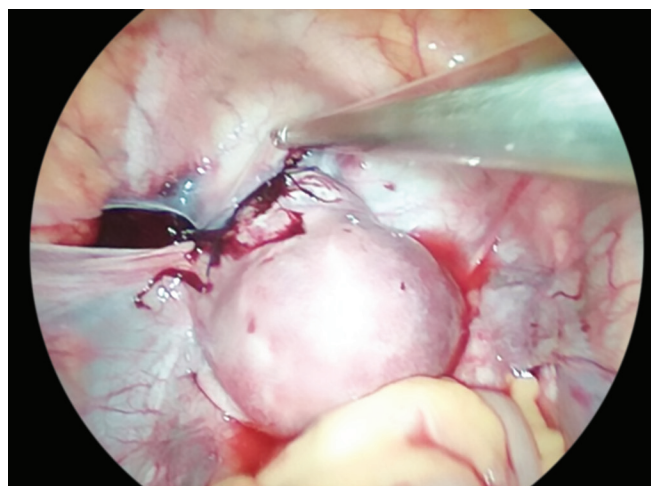


Fig. 3: Cesarean scar pregnancy after resection and laparoscopic repair

Looking at the doubtful nature of the pregnancy and the possibility of life-threatening complication, diagnostic laparoscopy was planned with counseling regarding the possibility of treatment options depending upon the nature of the pregnancy.

On diagnostic laparoscopy, 6 to 8 weeks of gestational sac was found, protruding out from the site of previous cesarean scar, with a very thin sac wall impending rupture (Fig. 2). Decision of lap resection and repair was taken with consent and counseling of all possible complications. Intrauterine vasopressin was injected (20 mg in 100 mL normal saline). The uterovesical fold of peritoneum opened and a nick was given over the sac. Products of conception were sucked, and hemostat was achieved by applying endo-sutures, taking a reasonable thickness of LUS (Fig. 3). Patient withstood the operation well.

Postoperative period was uncomplicated and she was followed up with serial beta; it was >150,000 mU/mL preoperatively and was 11,172 on day 3, and 535 after 15 days.

DISCUSSION

There are many theories which explain the occurrence of CSP, and the most reasonable is that the conceptus enters into the myometrium through a microscopic dehiscence tract of previous CS and its trophoblast implant into the myometrium.⁴

According to the classification of CSP by Vial et al,⁵ there are two different types of CSP. In the first type (CSP-I), implantation of the sac occurs into the previous CS with progression of pregnancy toward the cervicoisthmic space and the uterine cavity. This type allows growth of a viable fetus till term, but as the implantation is at LUS, there is an increased risk of massive bleeding at the time of birth because of atony or rupture at the site of implantation. In the second type (CSP-II), there is deep implantation into

a CS defect where the growth occurs toward the uterine myometrium and may bulge outside from the uterine serosal surface. The myometrium left between the developing sac and the bladder is reduced to less than 4 mm; this type of CSP may result in emergency hysterectomy in first trimester only.

Diagnosis usually requires the help of imaging techniques, as the clinical presentation is nonspecific. A pregnant patient may be asymptomatic, diagnosed incidentally or sometimes there is vaginal bleeding/spotting or abdominal discomfort. Acute abdominal pain and profuse vaginal bleeding is a rare presentation. Ultrasound is the main diagnostic tool for CSP, which shows a gestational sac attached to a previous CS embedded in the scar and surrounded by myometrium, going toward the endometrium or in between uterine wall and bladder. Color flow Doppler shows a distinct and prominent circular vascular flow. A combined transabdominal and transvaginal ultrasound improves the diagnostic accuracy, which can be further improved by using three-dimensional ultrasound with power Doppler or magnetic resonance imaging (MRI).

Looking at the life-threatening complication associated with CSP, accurate and reliable diagnostic criteria should be followed. The literature reveals that up to 13.6% of CSP are misdiagnosed as inevitable abortion or a cervical pregnancy.⁴

The safety of subsequent pregnancy and recurrence of CSP has not been reported much. Theoretically, the old scar has to be resected well, and the perfect new repair and closure might minimize the recurrence rate.

The main objectives in the clinical management of CSP should be the prevention of massive blood loss and the conservation of the uterus to maintain further fertility, women's health, and quality of life. Although many interventions, including medical or surgical methods,

have been reported, there is currently no standardized treatment for CSP, especially for CSP-II. The medical treatment with local and/or systemically administered methotrexate carries the risk of heavy bleeding, as reported in a few studies.^{6,7} Surgical treatment includes excision of the gestational tissues either by laparotomy or laparoscopy, or by hysterectomy. Once CSP-II is diagnosed, termination of the pregnancy should be considered. Thus, early and accurate diagnosis and the timely management are important, which allow the successful preservation of the uterus.

CONCLUSION

The CSP is probably the rarest location for ectopic pregnancy and causes the highest probability of life-threatening complications, as it is usually misdiagnosed. Therefore, early diagnosis with ultrasonography, combined with Doppler flow or pelvic MRI, if required, is indicated.

Although expectant management is available, available literature supports termination of this type of pregnancy once the correct diagnosis is made. Out of available management strategies, including medication, uterine

artery chemoembolization, surgery, or their combinations, in the hand of a skilled surgeon, laparoscopic approach of CS resection with wound repair is a safe and effective treatment.

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