International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Burande SA et al. Int J Reprod Contracept Obstet Gynecol. 2022 Sep;11(9):2523-2526
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20222322

Caesarean section scar pregnancy: case report, literature review and illustrative images

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Received: 11 July 2022
Revised: 02 August 2022
Accepted: 03 August 2022

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ABSTRACT

A case report of exogenic caesarean section scar pregnancy which ruptured into the utero-vesical pouch causing hemoperitoneum is presented with very illustrative images. Literature regarding importance of early diagnosis of caesarean scar pregnancy is reviewed.

Keywords: Caesarean section scar pregnancy, Caesarean scar ectopic pregnancy, Caesarean scar complications, Ectopic pregnancy

INTRODUCTION

Caesarean section rates are increasing globally even in areas with low access to it and the rates are projected to rise continuously, this drains resources and add avoidable morbidity and mortality.[1]

Amongst the many complications following caesarean section, one that encountered in pregnancy following previous caesarean is most horrifying with both immediate and long term consequences- the 'caesarean section scar pregnancy' (CSP). Although caesarean scar pregnancy is a rare type of ectopic pregnancy, its absolute numbers are rising because of uncontrolled and continuous increase in caesarean section rates.[2,3]

Its diagnosis and treatment both are challenging and involve high cost and serious complications often with life time consequences.[4,5]

We presented a case report of one such case with illustrative images related to both diagnosis and treatment.

CASE REPORT

Thirty-one years lady, 3rd gravida, with previous two full term caesarean sections (two living children) reported to us at 7 weeks 3 days amenorrhoea with spotting per vaginum off and on for last 4 days. Her ultrasound done for pregnancy diagnosis and pregnancy location revealed single well defined gestational sac with normal yolk sac and live embryo inside. The location reported was- lower than usual in the uterus with thinning of myometrium anteriorly at the level of previous scar. The sonologist suggested it to be scar pregnancy type 2, indicating that the gestational sac was growing outwards towards the bladder (Figure 1).

The gestational sac was seen within the anterior wall of the uterine myometrium. Patient was explained the risks associated with such an ectopically located pregnancy and was advised hospitalization for observation, uterine evacuation, and if needed laparotomy. She refused hospitalization, went home to her village 40 km from here and then reported 4 weeks after (at 11 weeks gestation)

with abdominal pain and fainting episode. This time she had no vaginal bleeding of any nature. She was pale with her haemoglobin 7.9 g%. She had abdominal fullness. Her blood pressure was 119/70 mmHg, pulse rate was 72 (she had history of receiving intravenous fluids at village before starting for our hospital). After explaining the urgent need of laparotomy, need of replacement of blood loss, informed consent was taken for laparotomy with further making clear that if uterine conservation is not possible hysterectomy is lifesaving.

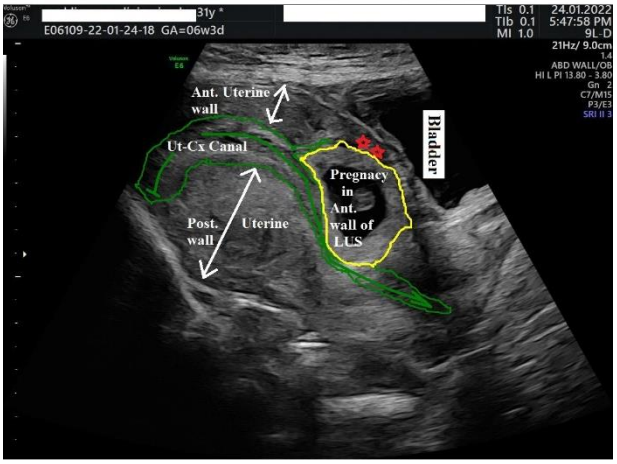

Figure 1: Ultrasound image showing scar pregnancy. Anterior uterine wall, posterior uterine wall, uterocervical canal, pregnancy sac well indicated. Red stars indicate blood vessels and sinuses at utero-vesical junction.

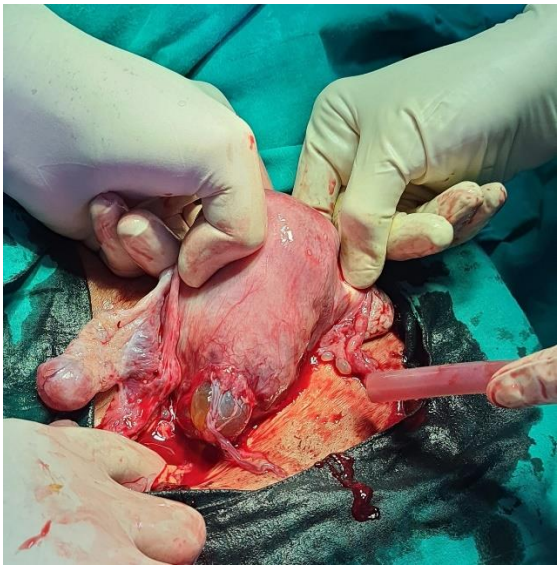

Figure 2: Laparotomy photograph showing products of conception protruding into the free peritoneal cavity through the previous caesarean scar in lower uterine segment.

Laparotomy was done by low transverse incision after excising the previous caesarean skin scars. On opening the abdomen, products of conception (POC) were seen protruding into the free peritoneal cavity through the previous caesarean scar in lower uterine segment (Figure 2). It was bleeding and peritoneal cavity was full of blood and blood clots. POC were removed, uterine cavity was wiped out of chorionic tissue, and a spurting branch of uterine artery was picked up with mosquito forceps and tied. Utero-vesical fold of peritoneum was reflected from the lower edge of ruptured caesarean section scar to clearly identify the bladder. As the edges of the uterine wound were clearly identifiable, uterine conservation seemed a perfect option. Before repairing the lower uterine segment, cervical canal was identified by inserting an artery forceps tip into the cervical canal to prevent inadvertent approximation of anterior and posterior walls of the lower uterine segment which might cause outflow obstruction and haematometra (Figure 3).

The entire thickness and entire length defect in the lower uterine segment was closed by No-0 polyglycolic acid suture on round body needle as a continuous full thickness single layer (Figure 4). Three reinforcing interrupted suture were placed at equal spacing. The amount of blood loss, POC are evident in Figure 5. Patient received three units of pack cell volume and made a good recovery to be discharged from hospital on completing 4 days.

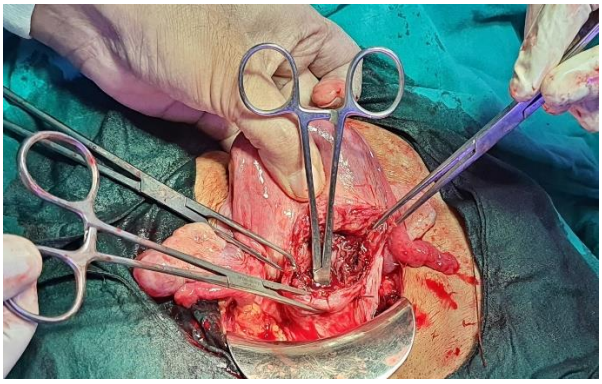

Figure 3: Artery forceps tip into the cervical canal to identify anterior and posterior walls of the lower uterine segment and to prevent inadvertent approximation of anterior and posterior walls of the lower uterine segment.

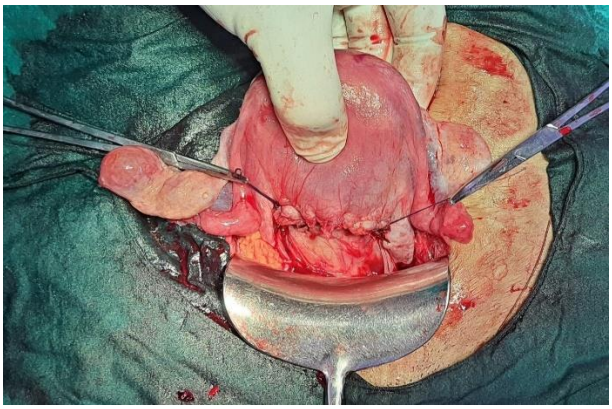

Figure 4: Repaired defect in lower uterine segment.

Figure 5: Blood loss and POC.

DISCUSSION

Reports of caesarean section scar pregnancies are rising and appear to do so proportionate to the rising incidence of caesarean section.[2,3] For not yet established reasons (mostly postulated, presumed) pregnancies implant themselves into the scars of uterine walls. As caesarean section surgery is very common, caesarean scar implantation reports are the most common than those following other scars (curettage scars, myomectomy scars, and MRP scars). Surgical resection with laparoscopic surgery or open surgery presently appears to give the most satisfactory outcome as regards- complete removal of scar pregnancy, excision of sinuses and niche in the scar, satisfactory repair of scar and quick return of serum beta hCG level to normal in 1-2 weeks. Other modalities are associated with primary failure, need prolonged observation, persistence of trophoblastic tissue, persistence of scar defect and the possibility of procedure related complications. Medical management (systemic methotrexate, KCl injection), uterus conserving surgery (suction evacuation and arrest of haemorrhage, hysteroscopic removal of pregnancy products, laparoscopy, laparotomy), hysterectomy (laparoscopic, open) are the various treatment options.[6,7]

Caesarean scar pregnancies depending on their direction of growth in uterine wall are classified into two varieties, type-1 and type-2.[4] Type 1 or endogenic CSP is where implantation occurs on the scar and the gestational sac grows towards the cervico-isthmic canal or uterine cavity. These cause external bleeding (vaginal) and not intra-peritoneal. These are amenable to suction evacuation and hysteroscopic evacuation. All the blood loss is revealed and hence easy to assess and treat. Blood loss may be arrested by isthmo-cervical balloon, electro-surgery, and lateral cervical sutures. Type 2 or exogenic CSP occurs when the gestational sac is deeply embedded in the scar and the surrounding myometrium and subsequently the gestational sac grows towards the bladder. In exogenic types, a layer of myometrium may be seen between the gestational sac and the bladder at an earlier stage; this becomes thin and eventually disappears, with bulging of the gestational sac through the gap as the pregnancy progresses, thus carrying a greater risk of earlier rupture. These cause intra-peritoneal bleeding, not intrauterine. High index of suspicion is vital in these case as external blood loss- an alarming symptom in any pregnancy is absent here. These cases need laparoscopy and or laparotomy for pregnancy removal, hemorrhage arrest and uterine scar closure.

This case in the present report presents the clinical course of the caesarean section scar pregnancy of type 2 variety. At the time of implantation and thereafter for some time the patient presented with vaginal bleeding indicating communication with uterine cavity. Subsequently as the pregnancy grew deep into the myometrium towards the bladder after 4 weeks she had no vaginal bleeding but developed intraperitoneal bleeding indicating its type-2 nature.

CONCLUSION

Exogenic caesarean section scar pregnancy presenting with hemoperitoneum managed by conserving the uterus is presented. Knowing location of pregnancy very early after missing period, with a high suspicion index for scar pregnancy, should become a rule in all cases of post-caesarean pregnancy. Thus it becomes necessary to have ultrasound scan early in pregnancy for all pregnancies in previously scarred uterus to know implantation site and its growth direction in subsequent scans, to differentiate type-1 from type-2. Early diagnosis can prevent devastating outcomes and allow uterine conserving therapy

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Burande SA, Mahale AR, Khanapure BB. Int J Reprod Contracept Obstet Gynecol 2022;11:2523-6.