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Case Report

A rare case of ruptured caesarean scar pregnancy

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ABSTRACT

Caesarean scar pregnancy (CSP) is a rare form of ectopic pregnancy. The incidence is approximately 1:2000 pregnancies and has potentially life-threatening complications. Ours is a rare case of scar ectopic pregnancy who had taken medical termination of pregnancy (MTP) kit while being unaware of her pregnancy location and presented with uterine rupture and hemoperitoneum. A 24-year-old female, P2L2A1, with previous two caesarean section (CS), presented with the complaint of bleeding per vaginum with acute pain abdomen and history of MTP kit intake at 7 weeks' period of gestation (POG). She received symptomatic treatment at local hospital without any diagnosis being made but brought an ultrasound showing anterior myometrium defect with scar site hematoma and free fluid. She presented with moderate pallor, tachycardia and suprapubic tenderness. She was subsequently taken up for laparotomy in view of probable ruptured CSP. Intra-operatively, actively bleeding scar ectopic was seen with hemoperitoneum. The contents were scooped out and repair done with bilateral tubal ligation. She was resuscitated with adequate blood products. Embryo implantation in the region of a previous CS scar is rare and a delay in either diagnosis or treatment can have catastrophic complications like haemorrhage, rupture and significant maternal morbidity as seen in our case. Therefore, we should have a high index of suspicion of scar pregnancy especially in cases of previous CS so that timely intervention can be done preventing maternal morbidity. Unwarranted use of misoprostol can be deleterious when site of implantation is unknown, particularly in CSP.

Keywords: Caesarean scar pregnancy, Ectopic pregnancy, Misoprostol, Scar rupture

INTRODUCTION

Caesarean scar pregnancy (CSP) is a type of ectopic pregnancy which is correlated with grave and life-endangering complications and has a rare occurrence. It is when the developing embryo lodges in the myometrium of a prior scar. Incidence of CSP is approximately 1 in 2000 pregnancies. The rate of CSP is 0.15% in women with a prior caesarean delivery while it is 6.1% among all ectopic pregnancies in women with at least one caesarean delivery, however the number of reported cases has been increasing with rising caesarean section (CS) rate.[1] It carries serious risk of extensive hemorrhage as well as rupture of uterus and therefore significant maternal morbidity and mortality. Even though options of expectant and medical management have been explored, the best and definite management of this entity is termination by surgical route that is hysterotomy along with restoration of the associated uterine scar defect.[2]

Here we describe a rare case of a scar ectopic pregnancy who had taken medical termination of pregnancy (MTP) kit while being unaware of her pregnancy location and presented to our emergency ward with uterine rupture and hemoperitoneum.

CASE REPORT

A 24-year-old female, G4P2L2A1, with previous two CS and history of dilatation and curettage in her last abortion,

presented to our institute from an outside facility at 7+4 weeks' period of gestation (POG) with the complaint of bleeding per vaginum for 7 days and history of MTP kit taken over the counter 4 days back in view of unwanted pregnancy when her urine pregnancy test came to be positive. She did not report passage of any fleshy mass. After taking the MTP kit, she first went to a primary health care provider, who gave her some medication, nature of which was not known and no investigations were done including ultrasound to confirm her pregnancy location. After 2 days, she later presented to the same health care provider with acute pain abdomen and vomiting for which she was given some medication and was sent home. On her third visit to the same doctor with aggravated symptoms, she was advised to undergo an ultrasound which was suggestive of breach in the anterior myometrium at the level of previous scar with scar site hematoma and free fluid and thereafter she was referred to our institute.

She underwent dilatation and curettage for missed abortion 6 years back followed by two caesarean sections. First caesarean section was done 5 years back in view of failure to progress while second caesarean section was done 2 years back in view of previous caesarean section unwilling for trial of labour. All conceptions were spontaneous.

She presented with moderate pallor, tachycardia and suprapubic tenderness. Her pulse rate was 106 beats per minute and blood pressure was 100/60 mmHg. She was conscious and oriented; her cardiorespiratory examination was found to be normal. On per abdomen examination, Pffanensteil scar was seen which was healthy looking, abdomen was soft with mild tenderness in the suprapubic region. On per speculum examination, bleeding was seen from external os but no clots or fleshy mass were seen. On per vaginum examination, uterus was anteverted, about 6 weeks in size and cervical motion tenderness was present. Bilateral fornices were also tender, however no mass was felt in the adnexa or pouch of Douglas (POD). Transabdominal ultrasound (TAS) done at our institute was suggestive of breach in the anterior myometrium and lower uterine segment with retained products of conception of size 2.5×1.6 cm with internal vascularity and hematoma of size 3.4×2.9 cm over the scar site defect (Figure 1).

On transvaginal ultrasound (TVS), moderate free fluid was seen in the POD. Cervix and uterine fundus were normally seen. A differential diagnosis of disrupted scar pregnancy or uterine scar rupture was made. Culdocentesis was done and it was found to be positive. Her pre-operative complete blood count showed hemoglobin of 8.2 g/dl, a total leukocyte counts of 10.34×10^9/l and a platelet count of 185×10^9/l. Her renal and hepatic function tests were found to be normal. Serum beta-hCG was done and the value was found to be 73,562 mIU/ml.

Patient was subsequently taken for emergency laparotomy in view of likely ruptured scar pregnancy with hemoperitoneum. The abdomen was opened through a Pffanensteil incision along the previous scar. Intra-operatively, scar site ectopic was present on right side of previous caesarean scar, which was actively bleeding (Figure 2).

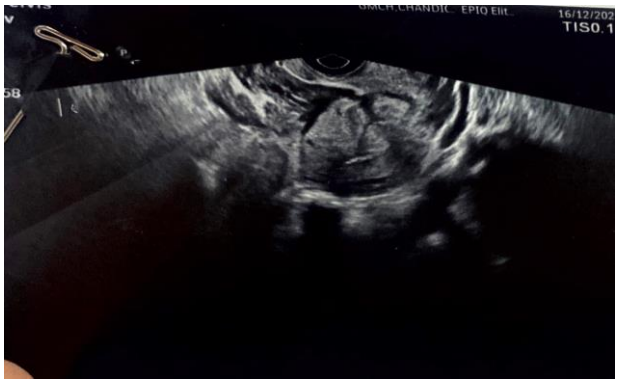

Figure 1: USG findings at our institute showing breach in anterior myometrium and lower uterine segment with scar site hematoma suggestive of possible rupture.

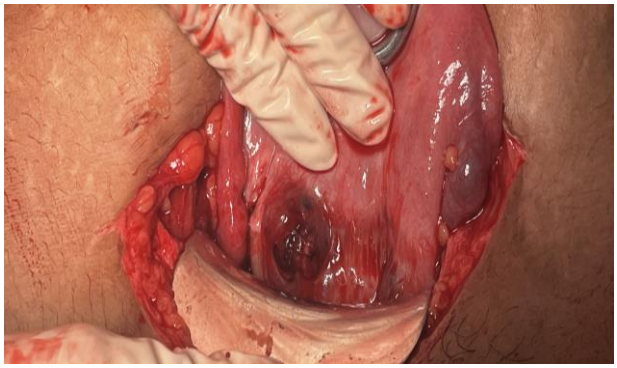

Figure 2: Scar site ectopic pregnancy with breach in anterior uterine wall in lower uterine segment was present more towards right side of previous caesarean scar, which was actively bleeding.

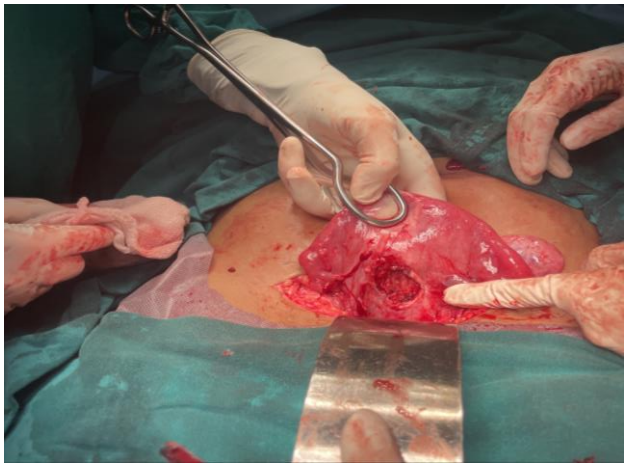

Figure 3: The contents were scooped out, sent for HPE followed by extension and repair of the defect along with bilateral tubal ligation.

300 cc of hemoperitoneum with 100 grams of clots were removed. The contents were scooped out, sent for histopathological examination (HPE) followed by extension and repair of the defect along with bilateral tubal ligation (Figure 3). She was resuscitated with adequate blood products including 2 units of packed cells and 2 units of fresh frozen plasma. Patient stood the procedure well. She was discharged on post-operative day 5. Histopathology report was consistent with scar ectopic pregnancy.

DISCUSSION

With a fatality rate of 9-14%, ectopic pregnancy continues to be the predominant cause of morbidity and mortality in the first trimester of pregnancy.[3] CSP is a form of ectopic pregnancy which is uncommon and carries potentially life-threatening risks. Types of CSP include type 1 or endogenic and type 2 or exogenic. Our patient belonged to type 2 variety.

Presentation of CSP can be as early as 5–6 weeks to as advanced as 20 weeks POG. In the present scenario, our patient presented at 7 weeks POG. Patients can have varied presentations ranging from early first trimester painless bleeding per vaginum (39%) to slight abdominal discomfort (16%) along with amenorrhea. In the event of rupture of uterus, patients can report with extreme abdominal pain of abrupt onset and excessive vaginal bleeding culminating to hypovolemic shock.[4] The mechanism for implantation of a CSP is unclear; various theories have been postulated which include translocation of the developing blastocyst through either a narrow fistular tract within the scar or a wedge-like breach in the lower uterine segment; invasion of placental villi at a point of scar dehiscence into the uterine wall or low oxygen tension in the scar tissue favouring implantation of the developing embryo.[5]

In our case, patient presented with history of one surgical evacuation and two caesarean sections. Therefore, it is important to have high index of suspicion for CSP when potential risk elements such as prior cesarean sections as well as uterine procedures such as dilatation and curettage or myomectomy are present. On clinical examination, tenderness of uterus and abdomen are generally seen in the situation of rupture, such as witnessed in our case. However, examination is usually unremarkable in cases without rupture.

Timely identification and management of this life-threatening obstetric condition is crucial and requires a high index of suspicion considering its location of implantation and potential of growth correlated with usual rising levels of serum beta-hCG. If undiagnosed early in pregnancy, scar pregnancy is associated with morbid outcomes including uterine rupture at the implantation site and profuse hemorrhage. If the pregnancy progresses and is uninterrupted, breach of the myometrium can lead to bladder wall invasion.

Transvaginal ultrasound appears to be an efficient, readily available and a reliable tool for timely diagnosis, especially in a low-resource setting. Certain sonographic criteria have been suggested in literature which are to be taken into consideration when making a diagnosis of scar pregnancy. These include an empty uterus; presence of trophoblastic cells primarily in between the bladder and the anterior uterine wall; a fine or non-existent layer of uterine myometrium in between the implanted embryo and the bladder; the detection of a disjunction in the anterior wall of the uterus seen through the amniotic sac when viewed in a sagittal plane as well as an empty endo-cervical canal.[6] It was in our case, that the patient was referred to us when conclusive diagnosis was made in life-threatening stage, as the diagnosis was delayed earlier.

In the current case, there was history of intake of misoprostol over the counter by the patient for termination of her pregnancy, which is not recommended and allowed, especially if the location of pregnancy is unknown and has not been confirmed on ultrasound examination. Misoprostol is a prostaglandin E1 derivative whose known adverse effect of uterine hyperstimulation may have aggravated the scar rupture in our case.[7] Therefore, its use warrants extreme caution to avoid such complications especially when there is a history of multiple uterine surgeries previously. It is advisable that a standard preliminary ultrasound should be performed in early pregnancy to confirm the location of gestational sac before misoprostol is prescribed.

Management should be individualized on case-to-case basis. The use of surgical evacuation techniques like dilatation and curettage, removal of trophoblastic tissues via laparotomy or newer techniques such as laparoscopy, provision of localized and/or systemic methotrexate (MTX), ligation of bilateral hypogastric arteries in conjunction with trophoblastic evacuation and selective embolization of uterine arteries in combination with curettage and/or MTX administration are all examples of conservative options. However, surgical intervention is the definite management required by most patients. According to a report by Stevens et al., the ineffective use of both regional and systemic MTX treatment in scar pregnancy eventually required surgical intervention.[8] No first trimester ultrasound was done along with an extremely low degree of suspicion of CSP within the primary treating unit in our case. This eventually allowed for escalation of the situation to its catastrophic and morbid stage such that she reported with imminent shock with ruptured scar site ectopic pregnancy. We performed an emergency laparotomy with evacuation of products of conception and restoration of the uterine defect with repair.

CONCLUSION

Implantation of the developing embryo in the region of a previous CS scar is rare and a delay in either diagnosis or treatment can have catastrophic complications like haemorrhage, rupture and significant maternal morbidity

as in our case. Therefore, we should exercise extreme caution and have a high index of suspicion of scar pregnancy especially in cases of previous caesarean or uterine surgeries so that timely intervention can be done preventing maternal morbidity. Unwarranted use of misoprostol can be deleterious when site of implantation is unknown, particularly in CSP.

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