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Case Report

Obstetrics and Gynaecology Section

Caesarean Scar Ectopic Pregnancy: A Case Successfully Managed using Systemic Methotrexate and Suction and Evacuation

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ABSTRACT

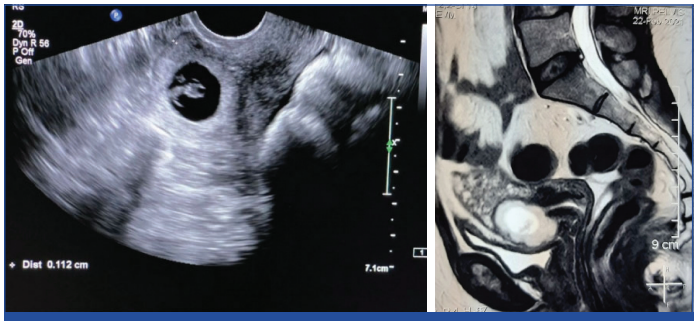
Caesarean Scar ectopic Pregnancy (CSP) is a rare type of ectopic pregnancy. But, its frequency has been increasing with increase in number of caesarean sections (C-section) performed worldwide. It is a form of ectopic pregnancy in which implantation occurs in the myometrium at the site of a previous caesarean scar. It can result in dreadful complications such as severe hemorrhage, uterine rupture and severe maternal morbidity. Thus, it becomes necessary to diagnose it at an early stage and also accurately to avoid complications and for preservation of future fertility. The recommendation is to therapeutically terminate the pregnancy at the time of diagnosis. Several types of conservative treatment modalities have been used: administration of methotrexate by local or systemic routes, dilatation and curettage, excising the trophoblastic tissue, ligation of hypogastric arteries bilaterally along with evacuation of trophoblastic tissue and selectively embolising the uterine artery followed by curettage with or without administration of Methotrexate (MTX). In this report, the author discusses a case of 38-year-old female patient of viable CSP which was managed successfully with combination of systemic MTX and subsequent suction and evacuation (S&E).

Keywords: Curettage, Haemorrhage, Myometrium

CASE REPORT

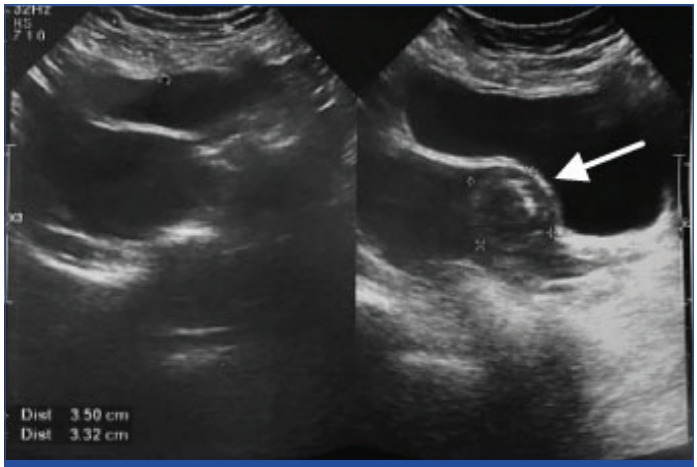
A case of 38-year-old female patient (G5P2L1A2) with previous two lower segment caesarean sections and two miscarriages, who reported to Obstetrics and Gynaecology Department with history of eight weeks amenorrhoea and chief complaints of pain in lower abdomen for one week which was insidious in onset, mild in intensity,non radiating, with no aggravating or relieving factor. Her first pregnancy was a first trimester spontaneous abortion which was managed by Suction and Evacuation (S&E). After 18 months, she delivered by C-section in her second pregnancy for breech presentation. The antepartum, intrapartum and postpartum periods went uneventful. She conceived third time after six years and at eight weeks of gestation, she took Medical Termination of Pregnancy (MTP) Pill which was followed by S&E. The procedure went uneventful. After a gap of six years, she conceived spontaneously for the fourth time and at 34 weeks of gestation, she was diagnosed with intrauterine foetal demise for which she underwent delivery by C-section. The postpartum period remained uneventful.

On examination her vitals were stable.Her cardio-respiratory and neurological system examination was normal. Her abdomen was soft, with no tenderness and no distension. On vaginal examination, her uterus was eight weeks in size, mobile and non tender. Transvaginal Ultrasound (TVUS) showed a single live intrauterine pregnancy with sac located in lower uterine segment abutting the C-scar with Crown Rump Length (CRL)-9.49 mm [Table/Fig-1]. Her quantitative serum ß-Human Chorionic Gonadotropin (HCG) was 47300 µIU/L. MRI showed an ill-defined lesion in anterior myometrium measuring 2.1×1.8 cm in size appearing hypointense on T2W images and ill defined endometrial-myometrial junction. A well-defined gestational sac with thick trophoblastic reaction was seen in anterior myometrium of lower uterine body in the region of C-scar. The anterior myometrium at this level was thinned out and trophoblastic reaction was abutting the anterior uterine serosa with no evidence of extrauterine extension. The gestational sac showed yolk sac and foetal node [Table/Fig-2].

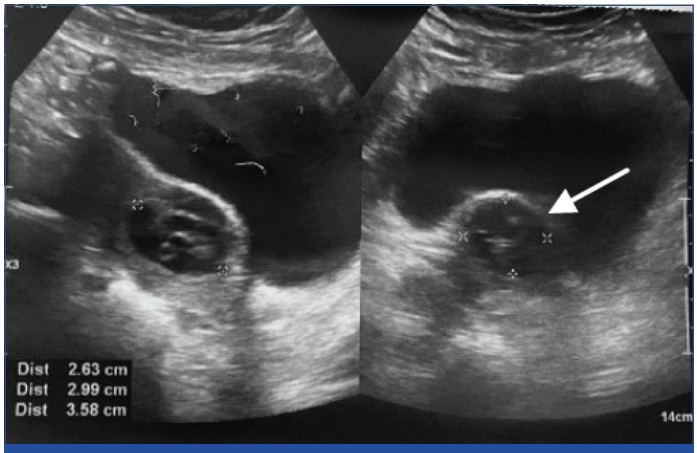


[Table/Fig-1]: Transvaginal Ultrasound (TVUS) showing a single live intrauterine pregnancy of six weeks and five days in lower uterine segment abutting the cesarean scar suggestive of caesarean scar pregnancy.
[Table/Fig-2]: Magnetic Resonance Imaging (MRI) showing a well defined Gestational sac with thick trophoblastic reaction in anterior myometrium of lower uterine body in the region of scar abutting the anterior uterine serosa with no evidence of any extrauterine extension. (Images from left to right)

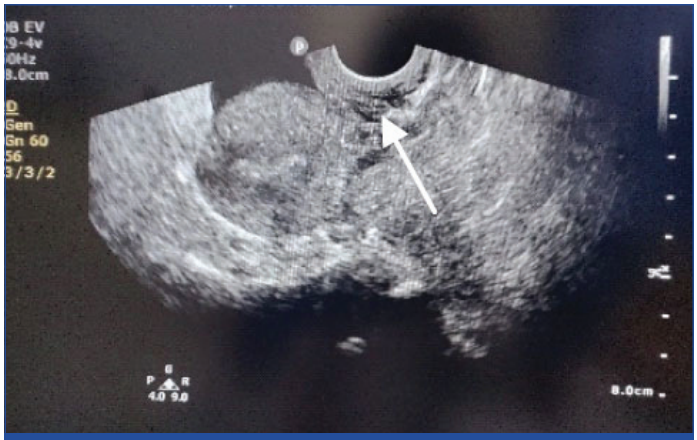
She was scheduled to have a serial ß-hCG evaluation. Since the vitals were stable, medical management with systemic multidose MTX was decided and dose of 1 mg/kg body weight of MTX was administered via intramuscular route on day 1, 3, 5 and 7 along with folinic acid (0.1 mg/kg) on day 2, 4, 6 and 8. During hospitalisation her vital signs remained stable and levels of β-hCG were monitored along with TVUS monitoring. The serial β-hCG on day 4,7,12 and 14 were as 84041 µIU/L, 82148 µIU/L, 46074 µIU/L, 22283 µIU/L. Repeat TVUS revealed persistence of gestational sac, so suction and evacuation was done under spinal anaesthesia on day 15 and one more dose of MTX and folinic acid were given post S&E. Patient stood the procedure well with average blood loss of 200 mL. Post S&E, TVUS on third postoperative day showed a haematoma at the site of caesarean scar measuring 3.5×3.3 cm [Table/Fig-3]. Repeat TVUS on seventh postoperative day showed a resolving hematoma on scar line [Table/Fig-4]. Patient was discharged on eight postoperative day and was scheduled for close follow-up. After two weeks, TVUS showed completely resolved haematoma [Table/Fig-5] and her ß-hCG was 15 µIU/L.



[Table/Fig-3]: Post suction and evacuation TVUS showing a haematoma in the scar line measuring 3.5×3.3 cm with no internal vascularity (arrow).



[Table/Fig-4]: TVUS showing a resolving haematoma at the level of scar measuring 2.9×2.6 cm.



[Table/Fig-5]: TVUS showing utreus with completely resolved haematoma at scar site (arrow).

DISCUSSION

Caesarean scar pregnancy is a very rare complication with an incidence of approximately 1 in 2000 pregnancies [1,2]. The incidence is on rise with increase in primary and repeat caesarean sections. Globally, primary C-sections contribute approximately 18.6% of all births [3]. Disruption of the endometrium and myometrium after C-section predisposes to improper implantation at the site of prior hysterotomy [4]. There are two recognised types of hysterotomy scar ectopic pregnancies. Type 1 implants in myometrium with growth towards the cavity of uterus and type 2 progresses in the direction towards serosa [5]. Type 2 ectopics have threatening prognosis as they can result in spontaneous rupture of uterus, haemorrhage and maternal death. Patients may present with pelvic pain and/or vaginal bleeding in first trimester while some may remain asymptomatic at diagnosis. Investigation of choice is TVUS. In equivocal cases, Magnetic Resonance Imaging (MRI) helps in confirming or refuting the diagnosis.

Treatment modalities on presentation of the case. Patients can be managed with expectant, medical or surgical management [2,6]. The surgical approach includes conservative and radical procedures. The conservative procedure includes: (i) evacuation of trophoblastic tissue followed by repair of uterine defect by laparoscopy or laparotomy [4,7]. (ii) Dilatation and Curettage (D&C) and excision of trophoblastic tissue via laparoscopy or laparotomy [8-10]. (iii) Laparoscopically guided bilateral hypogastric artery ligation and D&C [11]. The medical management includes local or systemic administration of MTX [12,13]. Some studies combine injection of MTX into the gestational sac with potassium chloride injection in foetal heart [14]. The medical management requires a long follow-up and is not cost-effective [15]. Persistence of pregnancy or failure of resorption may require surgical intervention in form of D&C or laparoscopy. Uterine artery embolisation is another treatment possibility [7]. However, it is not considered as a first line of management.

In the present case, since the vitals of patient were stable and there was persistence of gestational sac after medical therapy we opted for S&E. In a study by Fadhlaoui A et al., reported a case of CSP of six weeks gestation that was successfully treated with systemic MTX and subsequent D and C. Serum β-hCG levels were monitored and two doses of MTX were administered intramuscularly on day 0 and four. However, the persistent vaginal bleeding and follow-up TVUS scan on day 34 revealed persistence of Gestational (G) sac without foetus which led to their decision for D and C under ultrasound guidance [16].

Medical management combined with curretage has a high chance of success and with less risk of intraoperative blood loss. Also,the risk of hemorrhage during curettage is predicted by gestational age and sac size [17]. The combination of MTX with suction and evacuation has been advised by others also. For example, Wang JH et al. analysed the MTX with and without curettage and found that both the modalities were able to treat CSP patients, but the combined therapy reduced the duration of therapy with more favourable effect [18].In a case series published by Pristavu A et al., it was concluded that D and C was a reliable method in management of CSP when done after inhibiting the trophoblastic growth. Also,uterine temponade could be used to prevent the haemorrhage after evacuating the products of conception [19].

CONCLUSION(S)

In the present case report, it was well evident that a viable CSP can be managed safely with systemic Methotrexate and subsequent suction and evacuation. However, treatment modalities should be governed by gestational age, human chorionic gonadotropin levels, cardiac activity, desire for future fertility and facilities available. Since, the data available on optimum management is less, further studies will be required to rationalise the treatment options.

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