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A rare case of caesarean scar pregnancy (A rare type of ectopic pregnancy): A case report

Hajem Mohammad Ali Abu Dalou[1]*, Hasan N Al-Haidari[1]*, Omar Abel Latef Taso[2], Mohammad Qasem Mohammad Al Shurafat[1], Khaldoon Ahmad Hadidi[1]

[1] Department of Radiology, Jordanian Royal Medical services, King Hussien Medical center, Amman, Jordan

[2] Department of Obstetrics and Gynecology, Jordanian Royal Medical services, King Hussien Medical center, Amman, Jordan

Abstract

Caesarean scar ectopic pregnancies can result in severe and disastrous outcomes, including uterine rupture, significant haemorrhage, and maternal mortality. Therefore, early and precise detection of Caesarean scar pregnancy is crucial to prevent problems and maintain fertility. Transvaginal ultrasonography (TVUS) is the preferred imaging modality for diagnosing caesarean ectopic pregnancies; however, recent studies suggest that MRI may play a complementary role because of its ability to assess soft tissue, thereby influencing therapeutic decision-making. This case highlights the importance of prompt diagnosis of such rare entity to be managed properly due to its life threading complications.

Keywords: Caesarean scar pregnancy, ectopic pregnancy, transvaginal ultrasonography and mri

Introduction

Caesarean scar pregnancy is an uncommon type of ectopic pregnancy that carries serious hazards, including haemorrhage or premature uterine rupture. A hysterectomy may be necessary to prevent uncontrolled bleeding [1].

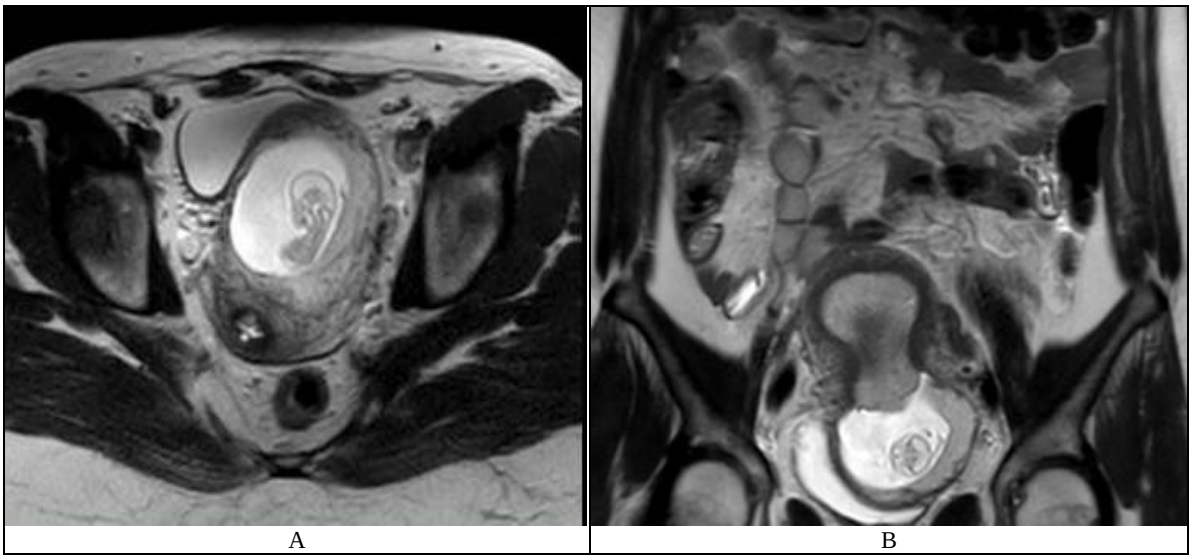
The estimated incidence ranges from 1 in 1800 to 1 in 2216 [2]. The analysis of the literature shows a limited series, with a rise in the overall number of publications on the topic since the 2000s, especially post-2006 [3]. The commonest clinical manifestation of Caesarean ectopic pregnancy is an asymptomatic vaginal hemorrhage devoid of specific clinical warning signs. Endovaginal ultrasonography and colour flow Doppler are highly beneficial for its diagnosis [1, 4]. MRI plays a crucial role when sonography is ambiguous or inconclusive prior to therapy or intervention [4]. Surgical, medicinal, and minimally invasive interventions for managing caesarean scar pregnancy have been documented; however, therapeutic options differ among institutions and countries [5]. This report describes a rare case of caesarean scar ectopic pregnancy for 29-year-old patient who underwent feticide through methotrexate and then evacuation under ultrasound.

Case presentation

A 29-year-old female pregnant patient presented to fetal medicine clinic for routine assessment. She has history of two caesarean section deliveries otherwise she was healthy, with no significant family or medical history.

Physical examination was unremarkable. Ultrasound revealed viable foetus with low implanted sac below the niche committed to the endometrial cavity viable and crown rump length goes with 13 weeks, placenta was posterior implanted over the cervix. Uterus was bulky with picture of adenomyosis. MRI confirmed the diagnosis of the caesarean section scar ectopic pregnancy (Figure-1-).

After consenting the patient, she had feticide through transabdominal intracardiac KCL and two doses methotrexate (one during the procedure and on 2 weeks after) then evacuation of the product of conception under ultrasound guidance was done. The patient was followed by bHCG till normalization and final ultrasound showed normal empty uterus.



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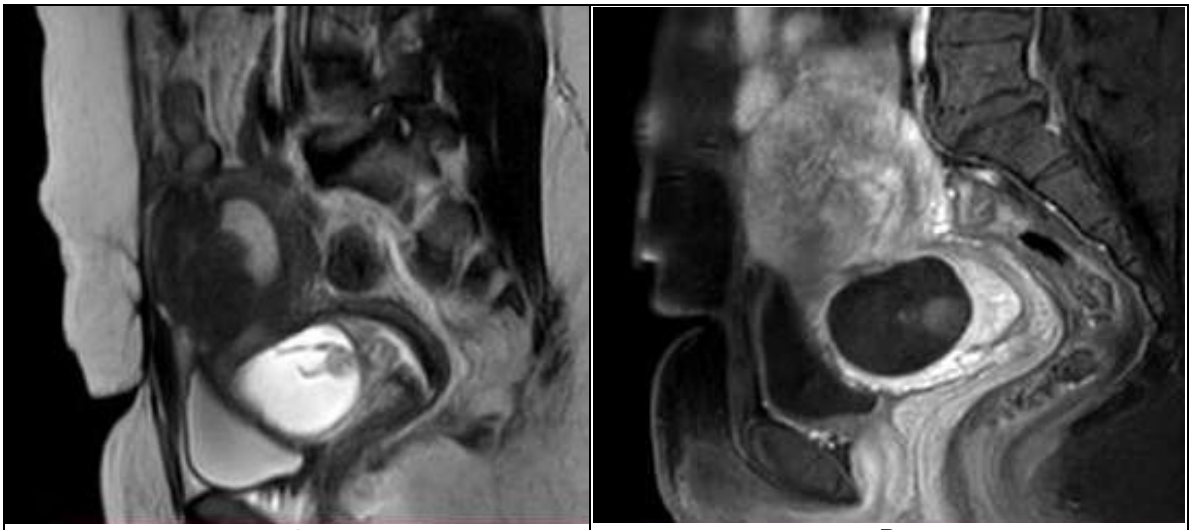

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Fig 1: Pelvis MRI with IV contrast shows Caeceriann scar ectopic pregnancy (A. Axial T2WI B. Coronal T2WI C. Sagittal T2WI D. Sagital T1 post contrast) Gestational sac is seen implanted at the lower uterine segment at the site of previous caesarean section (CS) and is surrounded by a well-appreciated decidual reaction. The myometrium anterior to the gestational sac is significantly thinned-out with mild anterior bulge.

Discussion

A Caesarean scar (ectopic) occurs when a pregnancy implants on the scar tissue from a previous Caesarean section. It is the rarest form of ectopic pregnancy [6] We expect the overall caesarean delivery incidence to be between 1 in 1800 and 1 in 2500 [7]. It is a life-threatening disorder that results in excessive haemorrhage and carries the danger of uterine rupture. Several terms can refer to it, such as "Caesarean scar pregnancy," "Caesarean ectopic pregnancy," or "Caesarean scar ectopic" [8].

There are several ideas about what causes Caesarean ectopic pregnancy and how it happens. The main idea is that the blastocyst gets into the myometrium through a microscopic dehiscent tract, which could be caused by previous uterine surgeries like Caesarean sections or manual placenta removal [8]. According to an alternative view, in the absence of prior uterine surgery, Caesarean ectopic
pregnancy may arise from trauma associated with assisted reproductive procedures [9].

The clinical manifestation of a caesarean ectopic pregnancy is markedly diverse, with vaginal bleeding being the predominant symptom, accompanied or not by abdominal pain [10, 11, 12, 13]. Approximately 20% [10] to 25% [11] of individuals are asymptomatic at the time of diagnosis.

Certain groups categorise a caesarean ectopic pregnancy based on the gestational sac's position and the minimum myometrial thickness [13]. A type I caesarean ectopic pregnancy primarily occurs within the scar and displays a myometrial thickness exceeding 3 mm. We define a type II caesarean ectopic pregnancy as largely situated within the scar region, exhibiting a myometrial thickness of approximately 3 mm [13] (As our case). We classify a caesarean ectopic pregnancy as type III when it completely falls within the scar region and displays a myometrial thickness of less than 3 mm [13].

Endovaginal ultrasonography confirms the diagnosis of ectopic pregnancy. It is a sensitive and readily available method that facilitates accurate and timely diagnosis [14]. Vial established the following parameters in 2000 [15]: a) an empty uterus without contact with the gestational sac; b) an empty cervical canal without contact with the gestational sac; and c) the implantation of the gestational sac on the anterior wall in the sagittal section.

Indirect sonographic indicators include the absence of an adnexal mass and effusion in the Douglas' cul-de-sac, except in cases of uterine rupture; a decrease in myometrial thickness between the gestational sac and the bladder, which indicates implantation depth; and peritrophoblastic hypervascularization, which can be demonstrated by color or energy (Doppler) [14]. In our case, ultrasound allowed the diagnosis of pregnancy.

In gestational imaging, MRI is considered a highly effective, complementary, and safe modality. Numerous studies have evaluated the diagnostic efficacy of MRI in identifying various gestational disorders, including ectopic pregnancies [16]. MRI may be beneficial in caesarean ectopic pregnancy when ultrasound data are unclear or inconclusive. MRI, utilising T1- and T2-weighted sagittal and axial sequences, can accurately determine the location of gestational sac implantation, provide a more detailed assessment of caesarean scar pregnancy, and evaluate the involvement of adjacent organs, such as the bladder, similar to caesarean ectopic pregnancy Type II [17]. If this disease is mistakenly thought to be another type of ectopic pregnancy, like a cervical pregnancy or an incomplete abortion, it could lead to the wrong treatment by curettage and dangerous bleeding [3]. In our cases, MRI was conducted not alone to validate the diagnosis but also to evaluate the extension.

Numerous case reports of patients with Caesarean scar ectopic pregnancy, especially in the absence of haemorrhage, support our approach as the surgical alternative [9]. This encompasses elective laparotomy and resection of the gestational mass. The advantage of surgery is a reduced likelihood of recurrence due to the excision of the previous scar and the implementation of a fresh uterine closure. The follow-up duration is comparatively shorter [1, 18]. A separate study involving pregnant patients with Caesarean scars views surgical scar removal as a crucial intervention to prevent recurrence [4].

Conclusion

Cesarean scar pregnancy is a rare entity. Due to its life threading complications. Prompt and early diagnosis should

be done and increase the familiarity of this entity and subtypes and their management should be considered.

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