Pregnancy Following Caesarean Section, Managed by Anterior Colpotomy

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Abstract
Caesarean section scar pregnancy is a rare form of ectopic pregnancy which is life-threatening for the mother due to uterine rupture at an early stage of pregnancy and haemorrhage. It is a pathology whose frequency is increasing due to the evolution of the caesarean section rate. We report the case of an isthmocele pregnancy diagnosed at 9 weeks of amenorrhoea during the first trimester ultrasound.

Introduction
Caesarean scar pregnancy is a pregnancy embedded in the myometrium at the level of the caesarean scar [1]. It is a rare location of extra uterine pregnancy, with a high risk of complication. Its incidence is estimated at between 1 in 1800 and 1 in 2200 pregnancies in the literature [2].

The diagnosis is rarely suspected, and may be confused with a miscarriage or cervical pregnancy, which delays management and puts the functional and vital prognosis at risk. It must be differentiated from placenta accreta on a caesarean section scar [3].

We report the case of a patient with a caesarean scar pregnancy managed surgically via the vaginal route.

Patient and Observation
Patient Information
This is a 32 year old patient with no notable G3P1C1 history who underwent a caesarean section during her second pregnancy due to acute foetal distress in early labour. She was referred to our establishment for pregnancy at 8 weeks’ amenorrhoea on a caesarean section scar.

On examination the patient showed no signs other than the symptomatic signs of pregnancy, no vaginal bleeding, and no uterine contractions. Endovaginal ultrasound revealed a sac nested in the anterior wall of the uterine isthmus and bulging into the bladder with the body and.

Therapeutic Intervention
We decided to operate on the patient vaginally via an anterior colpotomy. The patient was operated on under spinal anaesthesia in the gynaecological position, with an empty bladder, we performed an inverted T-shaped anterior colpotomy and detached the bladder from the isthmus (figure 2), exposing the isthmocele with the pregnancy bulging within it.
The incision of the isthmocele with the cold knife is followed by the spontaneous emergence of the gestational sac (Figure 3), which is extracted with forceps and curettage.

Discussion
Caesarean scar pregnancy is more common than previously thought. The first publication dealing with caesarean scar pregnancy dates back to 1978 by [4]. The first cases reported ended in haemostasis hysterectomy in the majority of cases. Its incidence is estimated at between 1/1800 and 1/2216 pregnancies, and it accounts for 6.1% of all ectopic pregnancies [5]. Its incidence is increasing for several reasons:

- The increase in the caesarean section rate [6].
- Improvement in the quality of ultrasound scanners enabling early diagnosis [7].
- A lack of awareness of this condition a few years ago.

The risk factors are identical to those for placenta accreta: with a history of caesarean section, curettage or manual uterine revision [2]. The risk is increased in the case of a previous scheduled caesarean section, as the lower segment is not mature [8].

Pathophysiologically, the defect in the hysterotomy scar allows invasion of the uterine muscle [8]. The difference between pregnancy with a caesarean section scar and placenta accreta is that in pregnancy with a scar, the gestational sac is completely surrounded by myometrium and scar tissue. Placenta accreta, on the other hand, is characterised by the absence of a decidual, more or less extensive invasion of the myometrium and an ovarian sac located in the uterine cavity.

Clinically, patients are often asymptomatic, with no vaginal pain or bleeding.
Diagnosis involves asking about the patient’s history and clinical signs, particularly abdominal pain and bleeding. This bleeding may be spontaneous or iatrogenic following curettage. Misdiagnosis and management as miscarriage by curettage from the outset could result in massive haemorrhage. Endovaginal ultrasound is used to make the diagnosis (84.6% sensitive), looking for the criteria established by Vial in 2000 [9]:
- An empty uterus with no contact with the gestational sac.
- An empty cervical canal with no contact with the gestational sac.
- Implantation of the gestational sac on the anterior uterine wall in sagittal section.

In terms of treatment, there are currently no formal recommendations. Treatment takes into account gestational age, the patient’s desire for future fertility, the experience of the therapeutic team, and the complications of first-line treatment. In all cases, treatment must be early and active, because of the major risk of haemorrhage or uterine rupture, which could jeopardise the uterus’ vital and functional prognosis.

But whether medical or surgical, treatment remains conservative. Medical treatment is based on local or systemic administration of methotrexate [10]. This treatment requires close and prolonged monitoring until complete resolution of the ectopic pregnancy. Aspiration and curettage, which carry a risk of haemorrhage and uterine rupture, must be carried out under ultrasound control if the gestational sac has developed towards the cavity.

Laparoscopy and laparotomy can allow complete resection of the scar and trophoblastic tissue. The vaginal route remains an important option by hysteroscopy or anterior colpotomy, as in our patient. In terms of prognosis, given the increased risk of uterine rupture, scheduled caesarean section as soon as pulmonary maturation is acceptable is the preferred route of delivery. The risk of recurrence of scar pregnancy is 5% [11].

**Conclusion**

Scar pregnancy is a rare late complication of caesarean section, but one that is tending to be less so due to the increase in the caesarean section rate. It must be diagnosed and managed early because of the life-threatening risk of haemorrhage. Endovaginal ultrasound is sufficient to make the diagnosis. We report the case of a patient treated vaginally, which is one of a multitude of therapeutic options that should be codified in view of the real increase in the number of cases of this pathology.

**Conflicts of Interest**
The authors declare no conflicts of interest.

**Authors’ Contributions**

Lounas Benghane: data collection, bibliographic research and writing of the article.

Bouzid Addad: proofreading and supervision of the writing of the article.

Mounir Bisker: proofreading and supervision of the writing of the article.

Kamel Haïl: proofreading and supervision of the writing of the article.

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