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Clinical case report

Cesarean scar pregnancy

Embarazo en cicatriz de cesárea previa

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ABSTRACT

Cesarean scar pregnancy is an unusual entity classified as a subtype of ectopic pregnancy and, in turn, in the placenta accreta spectrum. We present a case where other diagnoses were initially suspected, which implied management difficulties. It is reported due to its low prevalence and diagnostic difficulty due to low clinical suspicion. In addition, a brief review of the current literature on this pathology is carried out.

Keywords: Ectopic pregnancy; Cesarean section; Cesarean scar pregnancy; Hysterectomy; Case report.

RESUMEN

El embarazo en cicatriz de cesárea previa es una entidad poco frecuente que se clasifica como un subtipo de embarazo ectópico y a su vez en el espectro de acretismo placentario. Presentamos un caso de una paciente con embarazo en cicatriz de cesárea previa en quien inicialmente se tuvo sospecha de otros diagnósticos lo que supuso dificultad en el manejo. Se reporta debido a su baja prevalencia y gran dificultad diagnóstica por baja sospecha clínica, además se realiza una breve revisión de la literatura actual sobre esta patología.

Palabras clave: embarazo ectópico; cicatriz de cesárea; embarazo en cicatriz de cesárea; histerectomía; reporte de caso.

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INTRODUCTION

Cesarean scar pregnancy (CSP) is a rare type of ectopic pregnancy in which the gestational sac is wholly or partially implanted in the uterine scar of a previous cesarean section. Its incidence and reporting have increased proportionally in recent decades to the increase in the number of cesarean sections currently performed; incidence is estimated from approximately 1 case per 1.800 – 2.500 pregnancies, corresponding to 6.1% of all ectopic pregnancies.[1]

There needs to be a consensus on the best form of treatment for CSP, and the information available about adverse outcomes needs to be deeper, making it difficult to counsel women who are faced with this complication. This case presents a case where other diagnoses were initially suspected, which implied management difficulties. In addition, a brief review of the current literature on this pathology is carried out.

CASE REPORT

The patient was a 32-year-old female, gravida 3, para 2, with a history of cesarean section in her first pregnancy due to suspected cephalopelvic disproportion and a second cesarean section due to a previous uterine scar. She came to the obstetrics emergency room due to an ultrasound finding of an irregular gestational sac and a human chorionic gonadotropin beta subunit (β-hCG) level of 34.584 mIU/mL two days ago. Clinically asymptomatic, without pelvic pain or vaginal bleeding. A β-hCG control reported 31.442 mIU/mL, and a new ultrasound by the perinatology team described a low-implanted gestational sac with gestation of 6 weeks and two days per 5.4 mm embryo additionally collapsed yolk sac, embryonic bradycardia (66 beats per minute) and corpus luteum in the right ovary. See Figures 1 and 2. Therefore, an ultrasound follow-up is indicated in one week to assess for a possible miscarriage.

Figure 1. Gestational sac with the embryo. Crown-rump length (CRL) 5.40 mm.

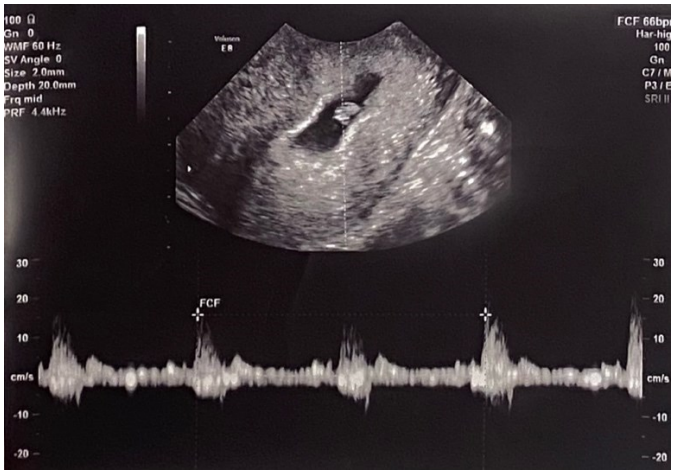

Figure 2. Embryonic bradycardia (66 beats per minute).

The one-week ultrasound reported an irregular, hypotonic, and descended 30 mm gestational sac; no yolk sac was seen, a 6.70 mm embryo without embryocardia; it was described that the gestational sac was pushed towards the anterior wall of the uterus, an isthmocele 14 x 7 mm was suspected, and a missed abortion was concluded. See Figure 3.

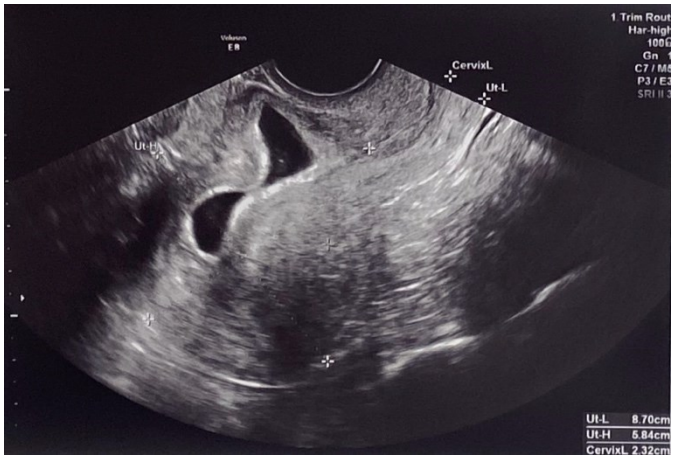

Figure 3. Isthmocele.

Based on this diagnosis, management with prostaglandins E1 (misoprostol) was indicated at a rate of 400 µg intravaginally and 400 µg orally in three doses according to FIGO/WHO recommendations.[2] At the medical check-up one week later, the patient reported heavy bleeding after finishing the medication. However, at the time of the assessment, there was no active bleeding or pelvic pain. An ultrasound scan was performed, which showed a heterogeneous image of 32.7 x 33 mm on the left anterolateral surface of the uterus with positive mixed echoes inside it, a cheerful color Doppler, and no gestational sac. Figure 4 presents the Doppler image.

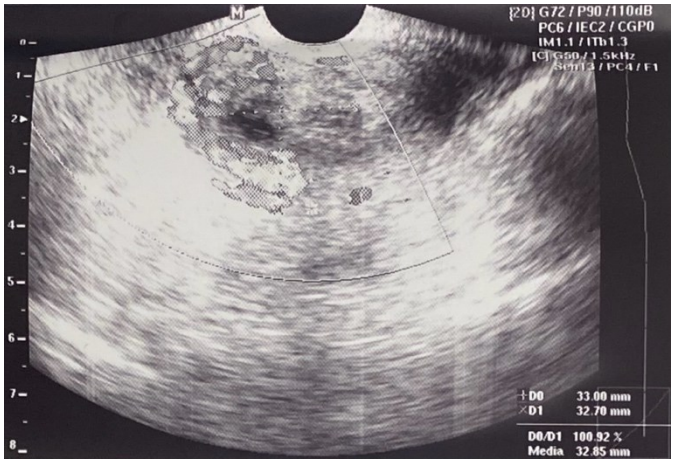

Figure 4. Heterogeneous image with cheerful color Doppler and no gestational sac.

Given these characteristics, the perinatology team repeated the ultrasound, where they reported a rounded echo mixed image compatible with pregnancy at the cesarean scar in the anterior uterine wall, the trophoblast invading the anterior surface of the uterus up to the serosa. In the evaluation with color Doppler, a hypervascularity area of 4.60 cm in its largest diameter found no fluid in Douglas's pouch. See Figure 5.

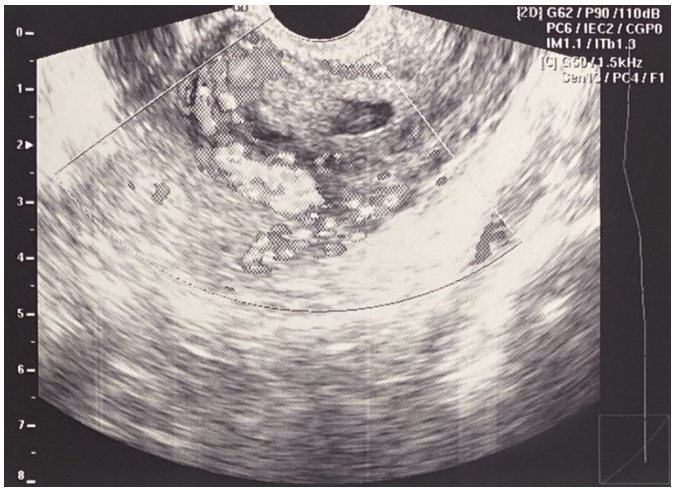

Figure 5. The trophoblast invades the anterior surface of the uterus up to the serosa.

The case and possible complications were discussed with the patient and her family. Local resection was initially planned due to the desire for parity. A low transverse laparotomy (Pfannenstiel) was performed; when approaching the uterine segment, abundant bleeding was found that prevented resection; given an estimated bleeding of 3.500 cc, a hysterectomy was proposed; during the procedure, a massive transfusion protocol, tranexamic acid and vasopressor support with norepinephrine was necessary. The postoperative period was favorable, and discharge was decided after two days of intensive care unit stay.

Ethical aspects

This study considered compliance with the principles and ethical standards of the Declaration of Helsinki of 1975 and its subsequent revisions and Resolution 8430 of 1993 of the Ministry of Health of Colombia for research with human beings. The authors declare that their institutions' protocols for publishing patient data have been followed and that privacy has been respected.

DISCUSSION

Ectopic pregnancy is a complication that prevents the normal development of pregnancy since the fertilized egg is generally not able to survive under such conditions, triggering, in turn, a series of other complications and even putting the woman's life at risk.

There are multiple risk factors, such as a history of ectopic pregnancy, a history of surgeries involving implantation sites, smoking, sexually transmitted infections, and advanced maternal age.[3] Specific risk factors for CSP include maternal age over 35 years, retroverted uterus, more than three pregnancies (especially pregnancies greater than five), more than two induced abortions (significantly more than five abortions), a history of cesarean section without clarity in the technique used, an interval between the current CSP and the last cesarean of less than five years (significantly less than two years), and a history of induced abortion after the cesarean.[4,5] In addition, there seems to be a relationship with the type of indication for the previous cesarean; a previous delivery due to breech presentation seems to be a more common indication in women who later experience a CSP.[5] In our case, the only risk factor was the two previous cesarean sections, the leading risk factor for ectopic pregnancy of the CSP subtype.

This type of ectopic pregnancy is classified into two types: endogenic "on the scar," in which the gestational sac grows into the uterine cavity, and exogenic "in the niche," which is characterized by the gestational sac being deeply attached to the scar causing invasion of the myometrium and serosa which can lead to uterine rupture.[7,8] In this clinical case, ultrasound findings show trophoblast invasion of the serosa, concluding that it was an exogenous CSP; this subtype has a behavior like the placental accreta spectrum.[9] The clinical presentation by which this pathology is suspected varies from asymptomatic ultrasound detection to the presence of uterine rupture and hemoperitoneum.[10,11]

The diagnosis of this entity is made by ultrasound criteria and color Doppler:[7,12]

1. Empty uterine cavity and endocervix.

2. Gestational sac, placenta, or both in the hysterotomy scar.

3. Triangular and rounded or oval gestational sac after eight weeks.

4. Thin myometrium thickness (1-3 mm) or absent between the gestational sac and the bladder.

5. Presence of a vascular pattern in the uterine scar.

6. Presence of a yolk sac and embryo with or without embryocardia.

Transvaginal ultrasound is the optimal modality for evaluating suspected CSP because it provides a dynamic approach and allows the use of color Doppler; in inconclusive scenarios, magnetic resonance imaging is a helpful tool for diagnosis and evaluating the relationship with adjacent pelvic organs.[5,13] In some cases, laparoscopy or hysteroscopy can also help to reach a diagnosis.[14,15]

The most important differential diagnoses should be considered as cervical ectopic pregnancies, miscarriage in progress, and low implantation of an intrauterine pregnancy.[5]

The ideal treatment is controversial and will depend on specific variables of each case, such as gestational age, β-hCG levels, desire for fertility, and hemodynamic stability, and should always be performed while preserving the woman's health. Three management methods are described in the literature: expectant, medical, and surgical.[8] The first is not recommended due to its association with increased maternal morbidity and mortality, although there are reports of cases of births.[16]

Medical management techniques include local or systemic methotrexate, with combined management

representing the highest success rate.[8,17] However, it is recommended only in stable patients with the absence of embryocardia and β-hCG levels < 12.000 mIU/mL; local management is also not recommended with β-hCG levels > 20.000 mIU/mL because it increases the risk of failure and toxicity.[18] In our case, the patient had β-hCG levels greater than 30.000 mIU/mL; the surgical approach would be the best option.

Transvaginal resection by hysteroscopy and scar repair via laparoscopy is that they are less invasive, with less bleeding and less time spent in hospital. These techniques are suitable for women who desire to preserve their fertility. In patients without a desire for fertility, hysterectomy is an appropriate technique to consider.[10,19,20]

In our case, the possibility of a low implantation pregnancy was initially suspected, so an ultrasound check was indicated, which found images suggestive of a missed abortion, for which medical management was initiated. Ultrasound follow-up revealed findings compatible with PSC. A fertility-preserving surgical approach was initially proposed, but a hysterectomy was necessary due to abundant bleeding. The main results of the management of our patient were a consequence of the problematic detection of the initial diagnosis, which would have allowed different management initially. This case highlights the need for a high clinical suspicion of this pathology to improve patient outcomes.

In conclusion, new strategies must be implemented for the early recognition and diagnosis of this pathology in patients who have undergone a previous cesarean section, and management protocols must be established to preserve fertility. However, the outcome will be promising if the patients remain stable without complications.

COMPETING INTERESTS

The authors declare that they have no competing interests.

AUTHOR CONTRIBUTIONS

JSS conceived the idea, wrote and edited the manuscript, and read and agreed on the final version.
LDLH participated in the manuscript writing and editing and read and agreed on the final version.
JSAA participated in the manuscript writing and editing and read and agreed on the final version.

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