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RESEARCH ARTICLE

DIAGNOSIS AND MANAGEMENT OF A CASE OF PLACENTA PERCRETA IN THE FIRST TRIMESTER OF PREGNANCY: A CASE REPORT

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Abstract

The continuous increase of Cesarean Deliveries is causing a parallel increase in cesarian scar pregnancy and its complications especially placenta accreta spectrum disorders. Placenta percreta is rarely diagnosed in the first trimester, and leads often to hysterectomy. In this case report, we report the case of an arab woman of 30-years-old with a surgical history of two cesarean sections. A placenta percreta was discovered following minor vaginal spotting after two months of amenorrhea. We present the imaging methods used for the diagnosis of placenta percreta in the first trimester of pregnancy, as well as the radiological aspect in ultrasound examination, especially geographic placental lacunae with poorly defined edges, turbulent flow on color Doppler, interruption of the line between the myometrium and the bladder. We also present our therapeutic strategy which consisted of delivery of the placenta associated with hypogastric arteries ligation and the adjunction of an intra-muscular injection of Methotrexate. This therapeutic strategy made it possible to preserve subsequent fertility.

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Introduction:-

The global rise in cesarean deliveries has led to a concurrent increase in complications associated with cesarean scars, particularly cesarean scar pregnancies (CSP) and placenta accreta spectrum (PAS) disorders. These conditions pose significant challenges to maternal health, particularly placenta percreta, which is the most severe form of PAS and involves the invasion of placental tissue through the myometrium, sometimes reaching adjacent organs like the bladder.

The early identification of placenta accreta spectrum disorders is crucial for enabling conservative treatment and preserving fertility. The treatment strategy should prioritize a conservative approach. In this case, we will explore how the management was carried out to both treat the patient and preserve fertility.

Presentation Of The Case:

We present the case of an arab woman of 30-years-old, G3P2, that underwent two previous C-sections interventions.

She presented to gynecological emergency department with minor vaginal spotting, after two months of amenorrhea.

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The clinical examination revealed a patient stable hemodynamically, with no clinical signs of anemia. The gynecological examination found minimal dark bleeding originating from the endocervix.

An ultrasound scan demonstrating a live caesarean scar ectopic pregnancy at 11 weeks of gestation, with a placenta that invades the myometrium and the posterior wall of the bladder. The US examination showed the presence of geographic placental lacunae with poorly defined edges, without a hyperechoic halo, showing turbulent flow on color Doppler. This is associated with an interruption of the line between the myometrium and the bladder, and disappearance of the hypoechoic separation layer, with bulging of the placenta into the bladder.

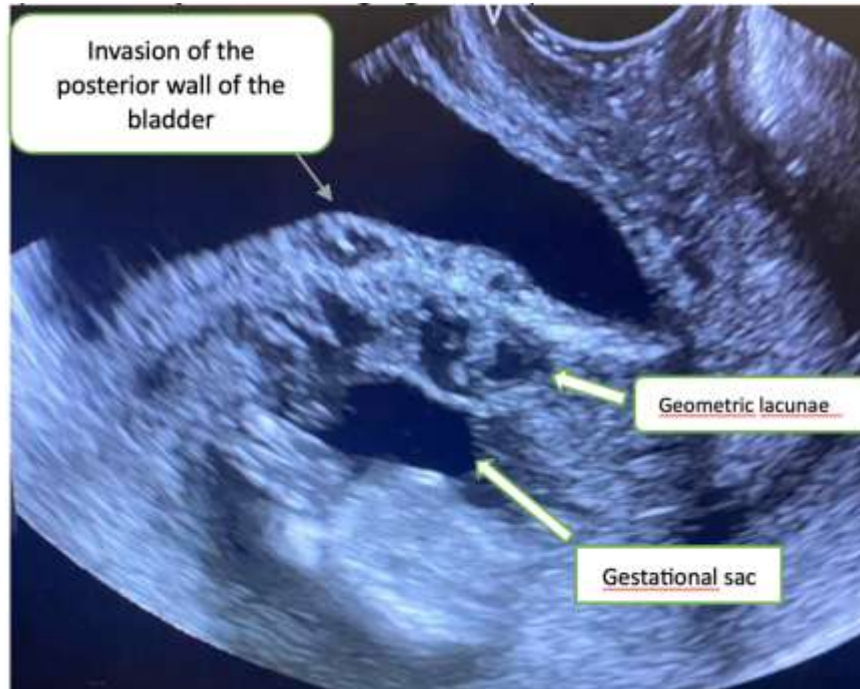


Figure 1:- US examination showing the aspect of the placenta and the invasion of the posterior wall.

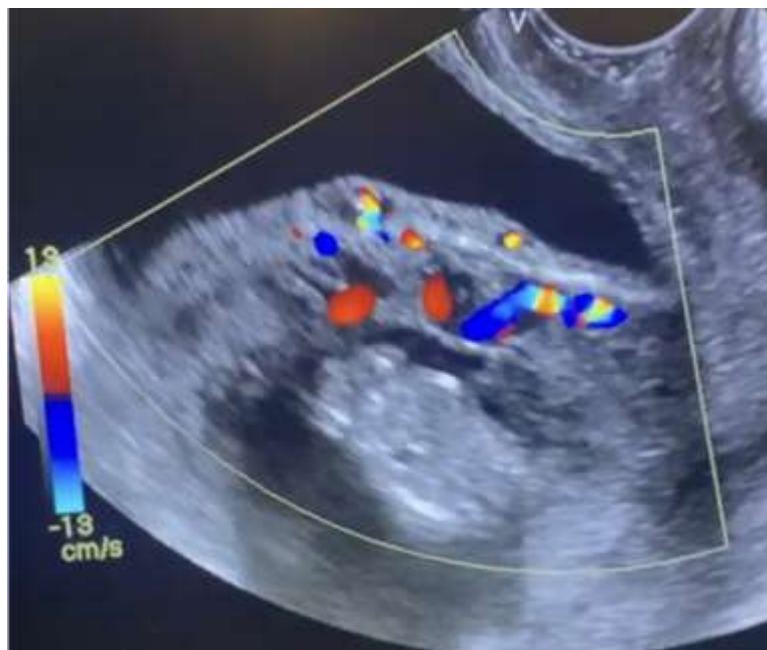


Figure 2:- US examination showing of turbulent flow in the color Doppler.

An MRI has been made, and had confirmed the diagnosis.

A biological workup showed a hemoglobin level of 11 g/dL and normal coagulation tests.

The therapeutic strategy was as follows: hospitalization, reservation of packed red blood cells, and pre-anesthesia consultation. The patient was then admitted to the operating room.

A laparotomy was performed, and upon exploration, a gravid uterus was found. There was placental invasion into the myometrium and the bladder serosa over 2 cm. The upper edge of the placenta was identified, followed by a hysterotomy and evacuation of the pregnancy, with removal of all visible placental tissue. No bladder dissection or bladder opening was performed. Hysterorrhaphy was carried out. Then bilateral hypogastric artery ligation in association with a B-Lynch uterine plicature have been made. Hemostasis was achieved.

Total bleeding was estimated at 900 ml. A transfusion with a unit of packed red blood cells was performed. Given the presence of bladder invasion, the therapeutic strategy was supplemented with medical treatment using Methotrexate, followed by weekly monitoring of BHCG levels. This approach allowed for the preservation of the uterus, minimized urological complications, and maintained future fertility.



Figure3:- Removal of placental tissue.

Discussion:-

A cesarean section pregnancy describes a gestation sac developing inside the scar area of a prior low-segment cesarean delivery¹.

Cesarean scar pregnancies are at high risk of pregnancy complications such as placenta accreta spectrum.

The vascular changes in the utero-placental circulation in cesarian scar pregnancies are due to the loss of the normal uterine structure in the scar area and the development of placental tissue in proximity of large diameter arteries of the outer uterine wall. The intensity of these vascular changes, development of placenta accreta spectrum and risk of uterine rupture depend on the remaining myometrial thickness of the cesarean scar defect at the start of pregnancy³.

The incidence of placenta previa accreta increase with the number of previous C-sections. It is 4.1% in women with 1 prior cesarean and 13.3% in women with more than two previous cesarean deliveries⁴.

The sensitivity and specificity of ultrasound imaging in diagnosing placenta previa accreta in women with a prior cesarean delivery, presenting with anterior low placenta or placenta previa, are >95% when performed by skilled operators⁴.

However, according to a systematic review, placenta accreta spectrum disorders in the first trimester of pregnancy are rarely diagnosed through imaging techniques and lead to hysterectomy in most cases. According to this

systematic review, placenta accreta spectrum disorders were defined through imaging techniques in 21.15% of the cases while surgical findings unveiled them in 28.84% of the cases¹.

Imaging finding regroups placental lacunae, lacunae swirling in color doppler, presence of an abnormal uteroplacental interface. In fact, in a study, placental lacunae were present in 85.7% cases versus 15.2% controls. The number of lacunae was significantly higher in cases compared with controls, with a median of five lacunae. The median size of the lacunae was also significantly larger in cases compared with controls. Lacunae swirling on grayscale or color Doppler ultrasound was noted only in placenta accreta spectrum cases. Presence of an abnormal uteroplacental interface was also observed only in PAS cases⁸.

Overall, according to the results of recent meta-analyses^{9,10} the average sensitivity and specificity of obstetric ultrasonography for the identification of different placental invasion depths were approximately 90 % and 95 %, respectively. As for MRI, these numbers were reported to be about 93 % and 94 %. In other words, MRI and ultrasound may have comparable accuracy for the prenatal diagnosis of PAS

A systematic review has been made about outcomes and management of cesarean Scar Pregnancy. 20,1% of patients had a miscarriage and 8,3% suffered fetal death. 25,8% had a term delivery and 41,8% patients had a preterm birth. In 102 (52,6%) patients, a hysterectomy was performed⁷.

Treatment can be conservative or nonconservative. The most used procedure in the nonconservative management of PAS is hysterectomy. Conservative management may be considered among those women with fertility need.

In our case, we combined hysterotomy, extirpation of the visible placenta and bilateral hypogastric arteries ligation, B-Lynch uterine plication, followed by a Methotrexate injection. This allowed us to do a conservative management, and preserve later fertility.

Conclusion:-

The incidence of cesarean scar pregnancy and its complications, such as placenta accreta spectrum disorders, is clearly increasing due to the rising rates of cesarean sections. Consequently, early diagnosis via ultrasound examination is crucial to anticipate multidisciplinary management.

Delivery of the placenta, combined with hypogastric artery ligation, is advantageous as it reduces intraoperative and postoperative bleeding, allowing preservation of the uterus. Finally, the administration of Methotrexate with regular monitoring of β -hCG levels until they become negative is essential.

Declarations:

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Data are available from the corresponding author upon a reasonable request.

Competing interests:

The authors declare that they have no competing interests

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