WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.084
Volume 12, Issue 6, 530- 537. Review Article SSN 2277– 7105

ISTHMIC PREGNANCY ON THE UTERINE SCAR ABOUT A CASE AND REVIEW OF THE LITERATURE

M. Ould Dadda*, A. Hassine, Sid. Elmustaph, A. Benbella, R. Bezad, A. Filali, Z. Tazi, M. H. Alami

Maternity and Reproductive Health Hospital Les Orangers, Ibn-Sina University Hospital Center Mohammed V-Rabat University.

Article Received on
03 March 2023,

Revised on 23 March 2023,
Accepted on 13 April 2023

DOI: 10.20959/wjpr20236-27883

***Corresponding Author**
M. Ould Dadda
Maternity and Reproductive Health Hospital Les Orangers, Ibn-Sina University Hospital Center Mohammed V-Rabat University.

ABSTRACT

Pregnancy in the cesarean section scar is a rare form of ectopic pregnancy, which can be life-threatening due to the high risk of massive bleeding by uterine rupture. The pathophysiological mechanism is still poorly understood. The clinical signs (abdominal pain, metrorrhagia) are non-specific. In a third of cases, the diagnosis will be made in an asymptomatic woman. The diagnosis is based on ultrasound criteria: empty uterine cavity and cervical canal, presence of a gestational sac in the myometrium at the antero-isthmic level with absence of myometrial tissue or reduction in the thickness of the myometrium between the gestational sac and the bladder. In case of diagnostic doubt, we can use three-dimensional ultrasound and magnetic resonance imaging (MRI). Indeed, it can be confused with a miscarriage during evacuation located at the isthmic or cervical level, a cervical pregnancy or a trophoblastic tumor. Several therapeutic options are possible if the pregnancy is not prolonged: medical treatment with methotrexate, simple evacuating curettage or curettage after ligation or embolization of the uterine arteries, and hysterectomy. The success of conservative treatment seems to be able to be correlated with the criteria used in cervical pregnancies, taking into account cardiac activity, βHCG levels, gestational age and craniocaudal length. We report the case of an isthmic pregnancy on the hysterotomy scar while highlighting the diagnostic traps to avoid.

INTRODUCTION

Ectopic pregnancy in caesarean section scar is the rarest form of ectopic pregnancy. This is a life-threatening pregnancy due to the high risk of massive bleeding from uterine rupture.[1] Its diagnosis must be early, in order to reduce maternal morbidity and mortality. Therapeutic management must be active and has a triple objective: to stop the development of the pregnancy before a possible uterine rupture, to remove the gestational sac and to preserve future fertility. Currently, there is no reference treatment for these pregnancies. It can be medical and/or surgical.[2] The decision to favor a therapeutic option will be based on the patient's clinical, biological and ultrasound data.

OBSERVATION

This is Ms. Nezha, 38 years old, with no particular medical history, with regular cycles, G4P3 with living children, by high route.

G4 the current one, is a pregnancy contracted under the pill with an imprecise date of last period, and an irregular follow-up during which the patient benefited from an ultrasound in favor of an intrauterine pregnancy at 12 SA, with a bag empty gestational.

Figure 1: Arrested pregnancy, with hypotonic gestational sac.

The patient was therefore hospitalized for an aspiration. The patient does not report any pain, we note the presence of minimal metrorrhagia.

The clinical examination on admission finds a patient in good general condition, normo-colored conjunctivae, body mass index at 26 kg/m2, blood pressure at 11/6 mmHg, pulse at 85 beats/min, eupneic.

The gynecological examination finds on the speculum a healthy-looking cervix and vaginal walls, minimal bleeding.

IN THE OPERATING ROOM

Installation in gynecological position, under sedation. Introduction of candles up to number 8, aspiration using a cannula number 8.

During the aspiration, we noted the appearance of very abundant red bleeding and the appearance of signs of hemorrhagic pre-shock with a blood pressure of 10/5 mmHg, we immediately performed an ultrasound, not finding no effusions in the cul-de-sac of Douglas, we ruled out a uterine perforation.

After resuscitation measures, the patient entered a state of hemorrhagic shock, with impregnable blood pressure, we performed a transfusion of 8 red blood cells and platelets with 1.5 g of fibrinogen, 4 bags of 500 ml of saline 0.9%.

After the recovery of the old scar, on exploration we find adhesions in the pelvis, no uterine perforation, the release of the adhesions has been carefully done.

The inter-adnexal hysterectomy was performed in front of the cataclysmic hemorrhage.

We found an implantation of the gestational sac in the lower part of the body of the uterus with a secondary extension into the isthmus.

DISCUSSION

Isthmic pregnancy is a rare clinical entity related to uterine ectopic pregnancy. It corresponds to a pregnancy in which the gestational sac is located between the internal os of the cervix and the zone of functional decidualisation of the endometrium.[1] Two different hypotheses have been proposed to explain the origin of these pregnancies: either implantation of the gestational sac in the lower part of the body of the uterus with secondary extension into the isthmus[3], or cervical implantation with extension beyond the internal os of the cervix.[4,5]

The clinical presentation is very variable, in 39% of cases, there is metrorrhagia of variable abundance, isolated, in a woman in early pregnancy with at least a history of cesarean section. These metrorrhagia can be accompanied by pelvic pain in 16% of cases. In 9% of cases, pelvic pain is the only clinical sign. It should be noted that in 37% of cases, the diagnosis will be made in an asymptomatic woman.[6] The clinical examination is not contributive. In case of pregnancy rupture in the caesarean section scar, the clinical picture will be much more severe, associating massive hemorrhage, significant pelvic pain, hemodynamic disorders, during the first trimester, speculum examination highlights a cervix healthy looking with no signs of cervical pregnancy (enlarged, globose, purple, blown cervix with a partially open external os).

Vaginal examination found a cervix of normal consistency, long with a lower segment that was most often distended and soft.[1]

Endovaginal ultrasound is the first-line examination, enabling diagnosis to be made in the majority of cases. The diagnosis is based on the combination of four ultrasound criteria [11] (Figure 2)

– An Empty Uterine Cavity.

- Un canal cervical vide.

- The presence of the gestational sac in the myometrium at the antero-isthmic level.

- The absence of myometrial tissue or a decrease in the thickness of the myometrium between the gestational sac and the bladder.

This last ultrasound sign makes it possible to make the differential diagnosis with a cervical pregnancy.

Indirect sonographic signs are the absence of adnexal mass and effusion in the cul-de-sac of Douglas, unless the pregnancy in the caesarean section scar is complicated by uterine rupture. The Doppler ultrasound can provide details on the evolving nature of this pregnancy.

The Doppler in color mode makes it possible to visualize the neo-vascularization developing in contact with the trophoblast, thus delimiting the gestational sac in the thickness of the myometrium. In pulsed mode Doppler, there is a low resistance arterial flow (pulsatility index < 1) with high systolic velocities (> 20 cm/second), indicating an ongoing pregnancy.[12]

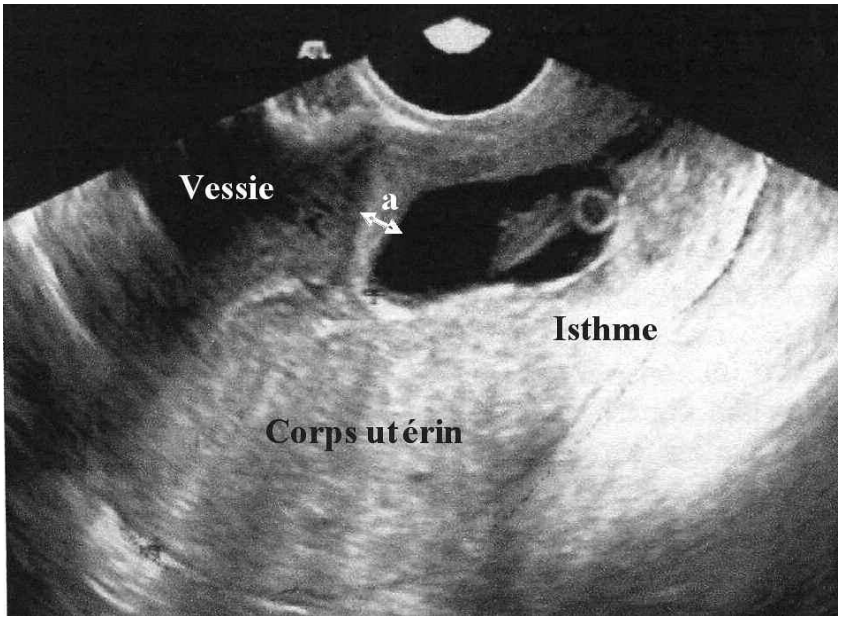

Figure 2: Progressive pregnancy of 8 weeks of amenorrhea in the caesarean section scar. The thickness of the myometrium is reduced between the gestational sac and the bladder (a).

The ultrasonographic study corroborates the clinical data by measuring the length of the cervix, which appears long, free of any gestational sac (the latter being located in the isthmic region) and by confirming the emptiness of the uterine body. In the literature, it also appears that magnetic resonance imaging can be a diagnostic aid.[2]

From a prognostic point of view, isthmic pregnancy can, unlike pure cervical pregnancy, progress to term.[4] In the literature, 20 cases have been published, most of which ended in hysterectomy for hemostasis (17/20).[1,4] A parallel can also be drawn with cervical pregnancies, which are more often reported and for which the potential risk of hysterectomy is directly linked to gestational age, diagnostic delay or ignorance of the diagnosis when performing phase curettage. hemorrhagic[7] as described in our case. These pregnancies are at very high risk of bleeding. The observation that we report here involves a significant additional risk factor because this patient had a triple scarred uterus and the implantation of the bag was opposite the hysterotomy scar.

Plusieurs options thérapeutiques sont alors envisageables.

Medical treatment is cytotoxic and is based on the use of methotrexate. According to Hung et al.[8], the success of conservative treatment with methotrexate in cervical pregnancies is

correlated with the absence of cardiac activity, a βHCG level below 10,000 IU/l, a gestational age below seven weeks of gestation and a craniocaudal length less than 10 mm.

In our case, we prescribed 1 mg/kg of methotrexate intramuscularly, renewable on the fifth day if tolerance is satisfactory. The decrease in βHCG levels followed an inverted exponential curve which is in agreement with data from the literature.[9]

The sonographic evolution after the injection of methotrexate quickly shows a heterogeneous aspect by dissolution of the trophoblast.[10] This image remained stable throughout the biological decline and it seems interesting to note that, without increased metrorrhagia or expulsion of clots, βHCG negativation is associated with complete uterine vacuity.

Surgical treatment consists of 2 components

Conservative treatment based on aspiration-curettage is at high risk of bleeding and uterine rupture. Since the gestational sac is not in the uterine cavity, the trophoblastic tissue located in the caesarean section scar is difficult to access.

RESECTION

By hysteroscopy: This procedure described for the first time in 2005 by Wang has the advantage of clearly visualizing the pregnancy and allowing selective coagulation of the vessels located at the implantation site, thus preventing per and post-operative. Fertility is also preserved.

Via the upper route (laparotomy or laparoscopy): Surgical resection by laparotomy or laparoscopy is used less and less given the effectiveness of conservative techniques; nevertheless, it still retains its formal indication in the event of a complication: uterine rupture or massive haemorrhage.

Concerning our case, the patient had benefited from a radical treatment

Embolization of the uterine arteries: This technique allows vascular control preventing or treating bleeding complications. It requires a suitable technical platform. This technique is not curative but symptomatic.

Radical treatment (hysterectomy)

Even if the use of hysterectomy is less and less indicated due to the improvement of diagnostic means allowing earlier diagnosis and new therapeutic possibilities, it can be

carried out either as first intention in the event of uterine rupture with massive haemorrhage. , or after failure of another therapy.[11]

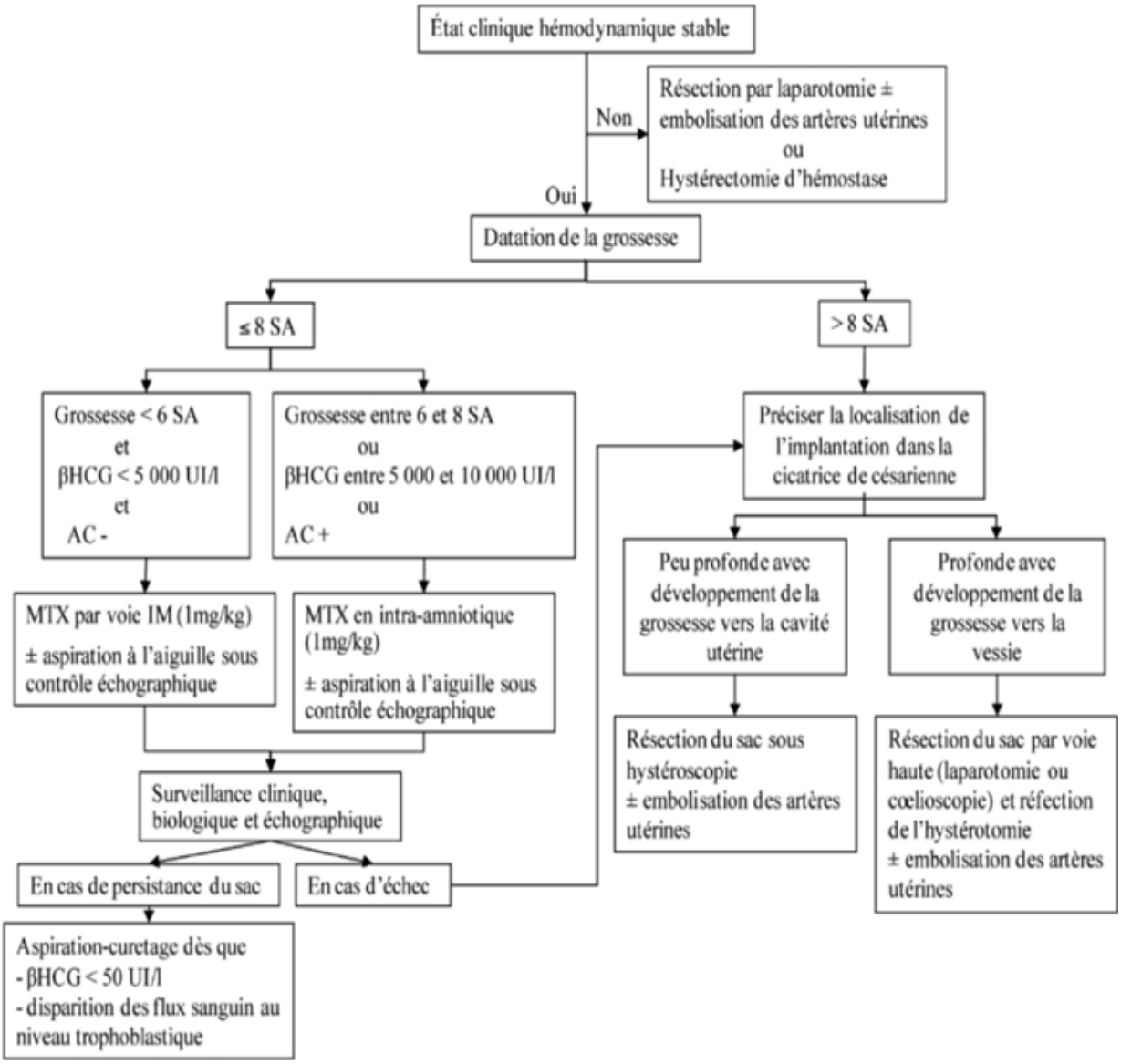

Figure 3: Modalities for the management of a pregnancy on a scar.[12]

REFERENCES

1. Riethmuller D, Courtois L, Maillet R, Schaal J-P. Management of ectopic pregnancy: other ectopias (cervical and abdominal). J Gynecol Obstet Biol Reprod (Paris), Nov, 2003; 32(7): S101-8.
2. Thouveny A. Ectopic pregnancies in rare locations: about 28 cases. Analysis of practices and proposal of therapeutic protocols for the Nancy Regional University Maternity Hospital, 2013; hal-01734374, version 1.

3. David MP, Bergman A, Delighdish L. Cervico-isthmic pregnancy carried to term. Obstet Gynecol, 1980; 56(2): 247–52.
4. Dreizin DH, Schneider P. Cervical pregnancy. Am J Surg, 1957; 93(1): 27–40.
5. Oyelese Y, Elliott TB, Asomani N, Hamm R, Napoli L, Lewis KM. Sonography and magnetic resonance imaging in the diagnosis of cervico-isthmic pregnancy. J Ultrasound Med., 2003; 22(9): 981–3.
6. Rotas MA, Haberman S, Levgur M. Cesarean scar ectopic pregnancies: etiology, diagnosis, and management. Obstet Gynecol, 2006; 107: 1373-81.
7. Ushakov FB, Elchalal U, Aceman PJ, Schenker JG. Cervical pregnancy: past and future. Obstet Gynecol Surv, 1997; 52(1): 45–59.
8. Hung TH, ShauWY, Hsieh TT, Hsu JJ, SoongYK, Jeng CJ. Prognosis Factors for an unsatisfactory primary methotrexate treatment of cervical pregnancy: a quantitative review. Hum Reprod, 1998; 13(9): 2636–42.
9. Melilli GA, Cormio G, Putignano G, Loverro G, Selvaggi L. Successful treatment of cervical and simultaneous cervico-isthmic pregnancy with methotrexate. Clin Exp Obstet Gynecol, 2001; 28(2): 89–90.
10. Kuo DM, Chiu TH, Hsieh TT, SoongYK. Serial sonographic changes in a case of isthmic pregnancy treated with methotrexate. J Clin Ultrasound, 1993; 21(7): 460–3.
11. Godin PA, Bassil S, Donner J. An ectopic pregnancy developing in a previous caesarian section scar. Fertil Steril, 1997; 67: 398-400.
12. Jurkovic D, Jauniaux E, Kurjak A, Hustin J, Campbell S, Nicolaides KH. Transvaginal color Doppler assessment of the uteroplacental circulation in early pregnancy. Obstet Gynecol, 1991; 77: 365-9.