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RESEARCH ARTICLE

UTERINE RUPTURE IN A HEALTHY UTERUS ASSOCIATED WITH A RETROPLACENTAL HEMATOMA, REPORT OF A CASE AND REVIEW OF THE LITERATURE

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Abstract

Uterine rupture is a complication of childbirth, its relatively rare but its actual frequency is relative to degree of development of the health system of the country where it occurs. The vital prognosis of the mother and that of the fetus are most often at stake, as well as the subsequent fertility of the patient. Its frequency is increased for scarred uteri and increasingly rare for healthy uterus. Through this work, we present an atypical case of uterine rupture occurring in a non-scarred uterus in a context of eclampsia complicating severe preeclampsia in a 31-year-old patient diagnosed intraoperatively. We discuss through this case and the review of literature, the interest of keeping in mind that this complication can threaten any childbirth even when the diagnosis of other complication seems more conclusive the case of a retroplacental hematoma in our case. The clinical warning signs, the risk factors, the diagnostic methodology are crucial to the therapeutic management of this entity.

Introduction:-

Uterine rupture is one of the obstetrical complications that remains relatively rare but nevertheless present, putting the maternal-fetal prognosis at risk and leaving the patient's obstetrical future with major question marks. Uterine rupture is more frequent in scar uteri than in healthy uteri. In this paper, we report a case of uterine rupture in a non-scar uterus associated with a retroplacental hematoma detaching the entire placenta. We will discuss the various points inherent in this complication in comparison with the literature.

Case description

Patient aged 31, rural origin, 2nd gesture, 2nd pare, with history of vaginal delivery for fetal death in utero in the context of severe preeclampsia 3 years ago. The patient was referred to our University Hospital from a private facility for an eclamptic crisis complicating preeclampsia treated with Aldomet500® in a presumed full-term pregnancy with in utero fetal death. On admission, the patient was normotensive to 100/60 mmHg, tachycardic to 110 beats/min, apyretic, conjunctivae slightly discoloured. Obstetrical examination showed a trickle of blackish-red blood of endo-uterine origin, a cervix open to 3cm, broken water, slightly tense uterus and negative fetal heartbeat. The patient was taken to the emergency room for a check-up, then rapidly transferred to the operating theatre for a Caesarean section to save the mother's life. Was indicated. Surgical exploration revealed a medium-sized hemoperitoneum that was aspirated, and a posterolateral uterine rupture associated with a retroplacental hematoma that completely detached the placenta (Figure 1). The uterine rupture was sealed by the fetal presentation. Caesarean

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section allowed extraction of a fresh dead fetus weighing g 2950. Given the patient's age and nulliparity, we opted for conservative uterine reconstruction. The post-operative course was relatively good, with intra- and postoperative transfusion of 2 packed red blood cells, and hemodynamic and blood pressure stabilization. The patient was discharged on the sixth day of hospitalization with a follow-up appointment in cardiology for hypertension.

Figure 1:- Postero isthmic uterine rupture.

Discussion:-

Complete uterine rupture is a solution of continuity that transfixes the uterine wall and the adjacent peritoneal sheet. It can occur spontaneously or traumatically, following shock, obstetric maneuver or instrumental intervention [1]. Uterine rupture may occur in a healthy or scarred uterus, the latter being far more frequent and accounting for a good three-quarters of cases. The incidence of uterine rupture differs between developed and developing countries. This difference is linked not only to difficulties of access to care, but also to the underdevelopment of the country itself, and intrinsically to the healthcare system in place. This disparity reflects differences in socio-economic conditions, high levels of precariousness and lower levels of medical supervision. The incidence in France, whether the uterus is scarred or not, is estimated at between 1/1000 and 1/2000 births, depending on the series, and reaches 1/100 in developing countries [2]. In a non-scarred uterus, the frequency is estimated at between 1/17000 and 20000 deliveries [3]. Among spontaneous ruptures, 17% occur before the onset of labor. The majority of published cases of rupture have occurred late in pregnancy or during labor [4]. The topography may be segmental, particularly inferior, which is the preferred site during labor, or corporal, for ruptures occurring before labor [1]. In this study, we are particularly interested in so-called spontaneous ruptures, which occur outside any traumatic context.

There are many classic risk factors for uterine rupture in a healthy gravid uterus. The most recognized as contributing to rupture in a non-scarring uterus are the following: obstetric manoeuvres; dystocic presentation, particularly transverse presentation; fetopelvic disproportions; excessive uterine expression; placental anomalies (mainly placenta percreta); uterine trauma due to previous instrumental curettage and uterine anomalies [5], as well as the abusive and above all uncontrolled use of prostaglandin oxytocics and their analogues. Phuapradit et al [6] reported a series of three cases of rupture in a non-scarring uterus after induction of labor by intracervical application of PEG2 gel in doses ranging from 3 to 6 mg. Heckel et al [7] published a case of rupture of a non-scarred uterus after intra-cervical application of dinoprostone (prepidil) for induction of labor. Larue [8] described a

case of rupture in a healthy uterus, during medical termination of pregnancy by PEG2 in the 2nd trimester. Some uterine ruptures in healthy uteri have no obvious cause, and a number of series have focused on this subject: Schrinsky [9] found ten spontaneous ruptures without any favourable factor in his series of 40 ruptures. Five of the 59 ruptures reported by Iloki [10] had no definite cause.

Parry et al [11] have suggested that risk factors for unexplained uterine rupture may include uterine diverticula, arteriovenous malformations and endometriosis. Liu et al. analyzed a series of 26 cases and found irreversible cellular damage in the muscle fibers of the lower segment of a non-scarred uterus in the event of rupture during labor; they concluded that excessive and prolonged pressure of the fetal presentation on the lower segment in the event of prolonged labor is the cause of these pathological consequences [12].

In our patient, the discovery of a retroplacental hematoma completely detaching the placenta during surgical exploration in a patient in labor raises the possibility of uterine overintensity, which could weaken the myometrial fibers. Apart from this parameter, no other risk factors were found, making this accident unexpected.

Clinically, the symptomatology of uterine rupture is generally noisy, and the typical signs are violent pelvic pain, a sensation of tearing, metrorrhagia, and instability of the hemodynamic state evolving towards shock [13]. Clinically, our patient presented with a symptomatology straddling retroplacental hematoma and uterine rupture, given her history of MFIU on a background of preeclampsia and follow-up for preeclampsia during the current pregnancy, the demonstration of negative BCF, the slightly tense uterus on palpation, the minimal blackish-red metrorrhagia, but also the fact that the presentation plugged up the uterine defect, making the hemoperitoneum less significant and preventing the fetus from lodging under the skin, all of which made the diagnosis at its preoperative stage relatively hazardous.

The recommended management of uterine rupture in a healthy uterus begins with intensive resuscitation and conditioning, followed by rapid surgical intervention, taking into account the extent of the lesions, the desire to have further children, the mother's general condition and an assessment of the risk to a future pregnancy. Ideally, it consists of conservative treatment using hysterorrhaphy. If the patient so desires, tubal ligation can be performed at a later stage. In situations where reconstruction seems impossible due to the extent of the lesions, a total or subtotal hysterectomy is performed in extreme cases. Hemostasis is ensured if necessary by ligation of the uterine or ovarian arteries, and especially the hypogastric arteries. Uterine retraction is stimulated by intraoperative intramural injection of oxytocin; others suggest the use of sulprostone. [1,4]. Our management was dictated by the fact that the patient had always wanted to safeguard her fertility and that the severity of the lesions was moderate. Uterine rupture in a non-scarring uterus is a serious and sometimes dramatic complication of pregnancy [14]. It is associated with significant maternal and fetal morbidity and mortality. Shrinsky et al [9] reported a maternal mortality rate of 20.8% and a fetal mortality rate of 64.6%. Golan et al[15] found higher maternal and fetal morbidity and mortality in cases of rupture of a non-scarring uterus, due to the implausibility of the diagnosis. Indeed, in their series, maternal mortality was 14.7% (nine out of 61 patients) in the case of a non-scarred uterus, whereas it was nil in the group of patients with a scarred uterus. In Plauche's series [14] of nine cases of rupture in a non-scarred uterus, no maternal deaths were reported, but the authors noted a fetal mortality of 44%.

Conclusion:-

Uterine rupture in a non-scarring uterus is a serious and exceptional complication, which every obstetrician must be able to evoke in the presence of certain clinico electrical warning signs, such as reddish bleeding, sudden pelvic pain and abnormal fetal heartbeat. Association with other obstetric complications is possible, and should never delay management. The management of this complication is an obstetric emergency, ranging from conservative treatment to haemostasis hysterectomy with ligation of the hypogastric vessels, taking into account the severity of the lesions and the patient's desire to preserve fertility.

Références:-

1. Fatfouta a, ,S. Villeroy de Galhau b, J. Dietsch b, E. Eicher c, D. Perrin a. **Rupture utérine spontanée sur utérus sain pendant le travail : à propos d'un cas et revue de la littérature.** Journal de Gynecologie Obstetrique et Biologie de la Reproduction (2008)37, 200—203
2. Catanzarite V, Cousins L, Dowling D, Daneshmand S. **Oxytocin-associated rupture of an unscarred uterus in a primigravida** .Obstet Gynecol 2006;108:723—5.

3. Ofir K, Sheiner E, Levy A, Katz M, Mazor M. **Uterine rupture: differences between a scarred and an unscarred uterus.** Am J Obstet Gynecol 2004;191:425—9.
4. Wang YL, Su TH. **Obstetric uterine rupture of the unscarred uterus: a twenty-year clinical analysis.** Gynecol Obstet Invest 2006;62:131—5.
5. S. Ahmadi, M. Nouira, M. Bibi, S. Boughuizane *, H. Saidi, A. Chaib, H. **Rupture utérine sur utérus sain gravide. À propos de 28 cas.** Khairi Gynécologie Obstétrique & Fertilité 31 (2003) 713–71.
6. Phuapradit W, Herabutya Y, Saropala N. **Uterine rupture and labor induction with prostaglandins.** J Med Assoc Thai 1993 May;76(5): 292–5.
7. Heckel S, Oril J, Dellenbach P. **Rupture d'un utérus non cicatriciel à terme par application intracervicale d'un gel de dinoprostone (prepidil).** Rev Fr Gynecol Obstet 1993;88(3):162–4.
8. Larue L. **Rupture d'un utérus sain lors d'une interruption de grossesse par prostaglandines au deuxième trimestre**. J Gynecol Obstet Biol Reprod 1991;20:269–72.
9. Schrinsky DC, Benson RC. **Rupture of the pregnant uterus: a review.** Obstet Gynecol Surv. 1978 Apr;33(4):217-32.
10. Iloki LH, Okongo D, Ekoundzola JR. **Les rupturesutérines en milieu africain : 59 cas colligés au CHU de Brazzaville.** J Gycol Obstet Biol Reprod. 1994;23(8):922-5.
11. Parry E, Wells M, Baxter T, Lne G. **Recurrent spontaneous rupture in a nulliparous young woman.** Br J Obstet Gynecol. 1995 May;102(5):420-1.
12. Liu ZT, YuAM, WolyA, Li GQ, Zhang ZF. **Pathophysiologic mechanism of uterine rupture during labor.** Chinese Med J. 1985 Mar;98(3):161-4.
13. Zied Khediria, Chaouki Mbarkia, Anis Ben Abdelaziza, Najeh Hsayaouia, Slim Khlif A, Mariem Chaabenea, Sana Mezghennib, Hedhili Oueslatia. **Rupture utérine spontanée de découverte tardive sur utérus sain après utilisation du misoprostol**. Imagerie de la femme. 2012;22(3):152-155.
14. Plauche WC, Von Almen W, Muller R. **Catastrophic uterine rupture.** Obstet Gynecol 1984;64:792–6
15. Golan A, Sandbank O, Rubin A. **Rupture of the pregnant uterus.** Obstet Gynecol 1980;56:549–59.