

Uterine Rupture in Healthy Uterus: Complication of Misoprostol

(About Two Cases and Review of the Literature)

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Abstract:- Uterine rupture in a healthy uterus in the 2nd and 3rd trimester of pregnancy is a rare and serious obstetric complication involving vital maternal and fetal prognosis and the obstetric outcome of patients in the absence of diagnosis and immediate management. It mainly occurs in a scarred uterus and remains anecdotal in a healthy uterus. We report two cases of uterine rupture in a healthy uterus.

We discuss through these cases and the review of the literature, the extreme caution that should be taken to use misoprostol in the event of induction of labor as well as the clinical signs, risk factors, diagnostic methodology and therapeutic management of this rare but potentially serious entity.

Keywords: Rupture Uterus, Maternal Mortality.

I. INTRODUCTION

The occurrence of a uterine rupture during onset of labor is a rare accident (less than 1% of cases) but potentially serious, which can lead to hemostatic hysterectomy. Most french teams despite the absence of a Marketing Authorization (AMM) in this indication use Misoprostol for the induction of labor in the medical interruption of pregnancy (IMG) of the 2nd and 3rd trimester routinely.

We want through our three cases and through a series of studies to educate the practitioner on the particularity of this obstetric emergency in order to improve the maternal and / or fetal prognosis.

Case 1:

Mrs FS, 29 years old, primigravida with no particular history, referred in our training for the management of severe oligoamnios with IUGR in pregnancy of 30 weeks + 2 days. Clinical examination on admission revealed a conscious patient who was hemodynamically and respiratory stable with a blood pressure of 11/6 labstix positive at 4 crosses, gynecological examination: a small uterine height compared to the gestational age with Fetal heart sounds present and regular in a patient outside of labor. A pre-eclampsia check-up was done and returned normal except for the 24 hours urinary proteinuria (PU24H) which was clearly positive at 4.5g / 24h with correct renal function, obstetric ultrasound: severe IUGR with anamnios and estimation of the fetal weight at 524g. The patient was

placed under eclectic, radiological biological and clinical monitoring, the worsening of the PU24H marked the evolution: 10 vs 4.5g with a blood pressure, which was still correct, diuresis maintained and a pre-eclampsia assessment of control that was correct, the Fetal Heart Rate (FCR) was micro-oscillating and reactive. The diagnosis of a severe IUGR with anamnios on maternal nephropathy on pregnancy of 30 weeks was retained. 3 days later, the evolution was marked by the occurrence of an Intra uterine fetal death. According to the recommendations of FIGO 2012, the triggering by misoprostol was carried out at a dose of 25 µg vaginally every 6 hours for 24 hours (4 times = 100 µg), 6 hours after the 4th dose, the patient started to have uterine contractions but which are spaced without cervical changes or rupture of the water pocket, the next morning, i.e. 24 hours after the 4th dose, the uterine contractions became closer and more intense with rupture of the water pocket, 2 hours after the patient showed pelvic pain continuous with vaginal examination a cervix dilated to 1 cm erased to 30% with the bag of water ruptured and presence of minimal bleeding of low abundance. The examination did not show, moreover, any deterioration of the hemodynamic state. A uterine rupture was suspected given the bleeding and a pelvic ultrasound was immediately performed showing a latero-deviated uterus on the right, presenting a solution of continuity of the left border, and an ectopic fetus without cardiac activity. A laparotomy was performed urgently to confirm the diagnosis of uterine rupture. On the exploration: no hemoperitoneum with a subperitoneal fetus located in the left broad ligament (**Figure 1**). The rupture extended from the isthmus to the anterior part of the insertion of the round ligament. Left uterine pedicle being intact. After extraction of the fetus and the placenta, we decided on conservative treatment of the uterus since the patient has not yet given birth. Ligation of the left uterine pedicle was made with suture of the uterine rupture with absorbable suture. The postoperative follow-up was straightforward and the patient was able to leave the department on the seventh postoperative day under oral contraception with iron treatment and a letter for nephrology consultation for a kidney biopsy puncture.

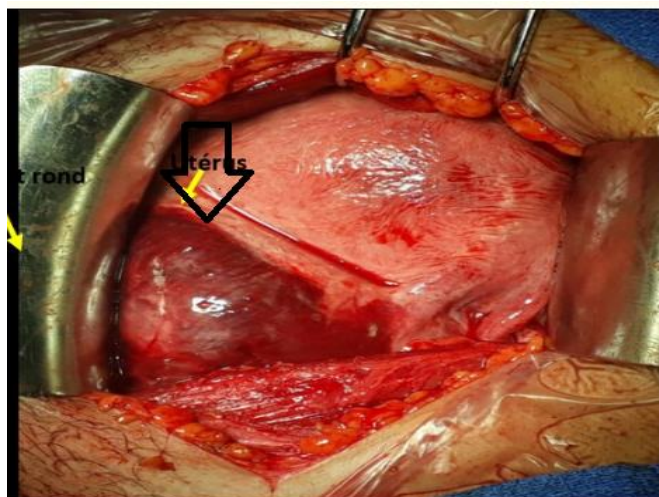


Figure 1 :Per operative picture of uterine rupture

Case 2:

42-year-old patient, large multiparous with vaginal deliveries, referred to our structure for the management of a failure of initiation by misoprostol on fetal death in uterus of an anencephalic, in whom clinical examination had demonstrated bleeding endo uterine with on ultrasound doubt about a uterine rupture, surgical exploration revealed a uterine rupture extended to the cervix with realization of an interadnexal hysterectomy (**Figure 2**)



Figure 2 :Per operative picture of uterine rupture

II. DISCUSSION

The uterine rupture is a solution of complete continuity of the uterine wall as well as its serosa. The uterine lumen then communicates with the peritoneal cavity. There are two types of uterine rupture (UR): traumatic and spontaneous. The etiologies of so-called “traumatic” RU are various and may be related to shock (direct or indirect) or obstetric maneuvers (endo-uterine maneuvers or uterine expression). We will focus more particularly on the so-called spontaneous UR, which occur outside any traumatic context [1, 2]. Uterine rupture is considered a rare accident in

developed countries, occurring in 1 / 2,000 births, while its incidence is much higher in developing countries, reaching 1/100 births [3], reflecting the difference in socio-economic conditions and levels of medical surveillance. Indeed, it is the insufficiency of qualified personnel and of health infrastructures, which would be at the origin of this difference [2, 4]. In a non-scarred uterus, the frequency of UR is estimated between 1/17,000 and 1/20,000 deliveries [5]. Between January 2012 and January 2017, two cases of spontaneous uterine rupture in a healthy uterus during the induction of labor by misoprostol were recorded in our department. An incidence of 2/13,537 deliveries. This is close to the figures described in the literature. Misoprostol was incriminated in this unprecedented case in our service. Misoprostol is a synthetic analogue of prostaglandin E1. Initially indicated in the treatment of peptic ulcer disease, it quickly saw its fields of use widen towards use in obstetrics in medical abortions and induction of labor, despite the lack of authorization to use the drug in these indications. Misoprostol has found a privileged place in obstetrics in developing countries, given its low cost and its ease of storage and administration, despite its many complications such as uterine hypercinesia, uterine rupture, or cardiac arrest, found in literature [6]. The particularity of our clinical case is found in the early term of rupture (beginning of the third trimester), in the absence of favoring or predictive factors, in the low dose of misoprostol administered (in total 100 µg). Reported spontaneous uterine ruptures occur mainly during the third trimester. However, they can be observed earlier, as in our observation [6]. There are many predictors of uterine rupture, the most important of which are scarred uterus, malformed uterus, multiparity, obstetric maneuvers, instrumental extractions, mechanical obstructions, history of uterine curettage, and use of uterine curettage. oxytocics including misoprostol [7]. In our patients, triggering by misoprostol was the only risk factor found, which made this accident completely unpredictable. The clinical picture of uterine rupture is usually noisy and typical signs are severe pelvic pain, a tearing sensation, bleeding, and unstable hemodynamic state progressing to shock [8]. Clinically, our patients presented a truncated clinical picture made only of abdominal pain with minimal metrorrhagia which led to a diagnostic doubt, the poor clinical signs in our two cases explained by the fact that in the first patient the The broad ligament remained intact, thus playing a compressive role, preventing the expansion of the hematoma and its diffusion into the abdominal cavity, and in the second patient the hematoma remained blocked. As the clinical picture is misleading, imaging played an important role in the diagnostic process. The therapeutic management of UR remains a medico-surgical emergency and includes medical resuscitation, which will be followed by surgical exploration by laparotomy. Surgical treatment of uterine rupture in a healthy uterus should ideally be conservative in young women wishing to become pregnant, and consist of a simple suture of the rupture. If conservative treatment seems impossible because of the extent of the lesions, a hysterectomy is necessary [1, 9]. In the face of neglected ruptures, conservative treatment is rarely possible. In our cases, the choice of therapeutic attitude was difficult, and conservative treatment was decided on the basis of the

peroperative findings and the patient's desire to maintain subsequent fertility. In the event of a new pregnancy, the risk of a new uterine rupture varies from 4 to 19% depending on the series [2]. For most authors, this risk is higher in the case of a body scar than in the case of a segmental scar [10]. In this case, it will be necessary to ensure close follow-up and provide for a scheduled delivery by prophylactic cesarean section at 38 weeks [9].

III. CONCLUSION

Prostaglandins, including misoprostol, should be used with caution and with close monitoring, in 2nd and 3rd trimester medical abortion. The clinical picture is generally noisy, but incomplete or even pauci symptomatic forms can be seen. Any unusual symptom should suggest the diagnosis and call for the help of imaging. Further studies are needed to determine the ideal protocol and the minimum effective dose of misoprostol in these situations.

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