



## SPONTANEOUS UTERINE RUPTURE OF HEALTHY UTERUS: ABOUT A CASE AND LITERATURE REVIEW

\*Kamal El Moussaoui, Benzina Intissar, Zainab Khallouk, Bouhache Sara, Najia Zraidi, Amina Lakhdar, Aziz baidada and Aicha Kharbach

Department of Obstetrics and Endocrinology - CHU IBN Sina, Rabat, Morocco.

\*Corresponding Author: Dr. Kamal El Moussaoui

Department of Obstetrics and Endocrinology - CHU IBN Sina, Rabat, Morocco.

Article Received on 03/05/2021

Article Revised on 25/05/2021

Article Accepted on 14/06/2021

### ABSTRACT

Uterine rupture in a healthy uterus remains a rare complication of labour. However, given its seriousness in putting the life of the mother and the fetus at risk, it is important to think about it in the presence of any metrorrhagia during labour, even in a healthy uterus. It is more frequent in the case of a scarred uterus. We present a rare case of spontaneous uterine rupture in a healthy uterus in a 28 year old patient with no previous history of We present a rare case of spontaneous uterine rupture in a healthy uterus in a 28-year-old woman with no previous pathological history, diagnosed after six hours of delivery due to postpartum haemorrhage. Through this case and the review of the literature, we discuss the extreme caution that must be maintained even in the case of a non-scarring uterus, as well as the clinical signs of appeal, the risk factors, the diagnostic methodology and the therapeutic management of this rare but potentially serious entity.

**KEYWORDS:** *Uterine rupture, healthy uterus, obstetric complications of childbirth.*

### INTRODUCTION

Uterine rupture is a rare complication of labour that is life-threatening for the mother and the fetus, as well as for the woman's obstetrical outcome. It is more frequent in the case of a scarred uterus and very rare in the case of a healthy uterus. The incidence of uterine rupture in the general population is 1/1235 to 1/4366 deliveries, in healthy uterus it is estimated to be 1/16,840 to 1/19,765 deliveries in high income countries.<sup>[1-4]</sup> In published studies, fetal mortality is estimated at 12-35%, with a hysterectomy rate of 20-30%.<sup>[1,2,5]</sup> Risk factors are poorly identified.

### CASE REPORT

Patient aged 28 years, 4th gesture, 4th pare, with a history of 4 vaginal deliveries of full term pregnancies, 4 male children, the last delivery was 6 hours before her admission to our facility. The patient was referred to our hospital from a birthing center for postpartum hemorrhage. On admission, the patient was normotensive at 110/70 mm hg, tachycardic at 110 beats/min, apyretic, conjunctiva slightly discoloured. The obstetrical examination showed continuous reddish bleeding of endo-uterine origin, hence the performance of a uterine revision which showed the presence of a uterine continuity solution. The patient was quickly taken to the operating theatre for emergency laparotomy. On

exploration, the presence of a large haemoperitoneum was observed firstly, and secondly, an anterolateral and a posterior isthmic uterine rupture. Given the patient's age and her desire to preserve her fertility, uterine reconstruction was chosen. The postoperative course was good and the patient was discharged six days later accompanied by her baby.



Figure 1 : anterior uterine rupture.



**Figure 2: posterior uterine rupture.**

## DISCUSSION

Uterine rupture in a non-scarring uterus is a very rare complication in developed countries but relatively more common in developing countries. This disparity reflects differences in socio-economic conditions, high levels of poverty and lower levels of medical supervision. In a non-scarring uterus, the frequency of RU is estimated to be between 1/17,000 and 1/20,000 deliveries.<sup>[6]</sup> Uterine rupture is a complete break in the continuity of the uterine wall and its serosa. The uterine lumen then communicates with the peritoneal cavity. There are two types of uterine rupture (UR): traumatic and spontaneous. The aetiologies of so-called "traumatic" Rupture are varied and may be related to shock (direct or indirect) or obstetric manoeuvres (endo-uterine manoeuvres or uterine expression). We are particularly interested in so-called spontaneous UR which occur outside any traumatic context.<sup>[7,8]</sup> There are many risk factors for uterine rupture in a healthy pregnant uterus, the most important of which are malformed uterus, multiparity, obstetric manoeuvres, instrumental extractions, mechanical dystocia, placentation anomalies, history of uterine curettage, and use of oxytocics.<sup>[9]</sup> In our patient, multiparity was the only risk factor found, which made this accident unexpected.

In some cases rupture in a pregnant uterus, a priori healthy, has no obvious cause. Schinsky<sup>[10]</sup> found ten spontaneous ruptures without any favourable factor in his series of 40 ruptures. Five cases of rupture, out of 59 reported by Iloki<sup>[11]</sup>, have no defined cause. Parry *et al*<sup>[12]</sup> suggested that risk factors for unexplained uterine rupture may be: uterine diverticula, arteriovenous malformations and endometriosis.<sup>[13]</sup> Liu *et al*, analysing a series of 26 cases, found irreversible cellular damage in the muscle fibres of the lower segment in the case of rupture during labour of a non-scarring uterus; they concluded that the excessive and prolonged pressure of the fetal presentation on the lower segment during

prolonged labour is the cause of these pathological consequences. This hypothesis is certainly attractive, but it is open to criticism, as it does not explain ruptures in non-scarred uteri occurring primarily in early labour. Concerning the site of rupture, the various publications are in agreement with the work of Margulies<sup>[14]</sup> and Voogd.<sup>[15]</sup> In fact, when the rupture occurs during labour, it often involves the lower segment, whereas it is corporal before labour. In our case, the rupture involves the lower segment.

The clinical picture of uterine rupture is generally noisy and the typical signs are severe pelvic pain, a sensation of tearing, metrorrhagia, and instability of the haemodynamic state evolving towards shock.<sup>[16]</sup> Clinically, our patient presented with postpartum delivery haemorrhage with tachycardia and no signs during labour, and it was uterine revision that allowed the diagnosis of uterine rupture. The therapeutic management of UR remains a medical-surgical emergency and includes medical resuscitation followed by emergency laparotomy. Surgical treatment of uterine rupture in a healthy uterus should ideally be conservative in the young woman wishing to become pregnant, and consists of a simple suture of the rupture. If conservative treatment is not possible because of the extent of the lesions, hysterectomy is required.<sup>[7,17]</sup> For neglected ruptures, conservative treatment is rarely possible. In our case, conservative treatment was decided on the basis of the intraoperative findings and the patient's desire to maintain fertility in the future. In case of a new pregnancy, the risk of a new uterine rupture varies from 4 to 19% depending on the series.<sup>[8]</sup> For most authors, this risk is higher in the case of corporal scarring than in the case of segmental scarring.<sup>[18]</sup> In this case, close monitoring should be ensured and a scheduled delivery by prophylactic caesarean section at 38 weeks' gestation should be planned.<sup>[17]</sup>

## CONCLUSION

Uterine rupture in a non-scarring uterus is a serious and sometimes dramatic complication of pregnancy. Its prognosis is poor because of the high rate of mortality and morbidity, which exceeds that of ruptures in scar uterus. Its clinical picture is misleading, its management is a vital emergency that requires the mobilisation of a multidisciplinary team.

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