

A Rare Case of Uterine Rupture in Non Scar Uterus: Case Report

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Abstract: Uterine rupture during labour is a serious obstetric complication that involves maternal and fetal vital prognosis and the obstetric fate of patients in lack of diagnosis and immediate management. It occurs mainly on a scarred uterus and remains anecdotal on a healthy uterus. We report the case of a uterine rupture on a healthy uterus occurred in our department in a 26-year-old primipare on spontaneous labor.

Keywords: Uterine rupture; Obstetric labor complications

Introduction

Uterine rupture is a rare, serious and potentially lethal complication for the mother and her fetus. It should be considered urgently to ensure optimal management. We report a case of spontaneous uterine rupture in a non-scarring uterus, which occurred in our department. We will discuss the clinical signs, the risk factors and the different therapeutic options that can be implemented and compare our management with the data in the literature.

Clinical case

A 26 year-old woman, primiparous, second pregnancy with a history of a late spontaneous miscarriage without curettage. The current pregnancy is normal, not monitored, she came to the obstetric emergency at 32 weeks of amenorrhea for bleeding, abdominopelvic pain and a decrease in active fetal movements. Clinical examination found a low blood pressure, pelvic tenderness on abdominal palpation, no fetal heart sounds, bleeding from the endocervix on speculum.

Obstetrical ultrasound showed a monofetal pregnancy with negative cardiac activity, heterogeneous low inserted anterior placenta with moderate ascites. The biological examination was without abnormalities. The decision was an immediate transfer to the operating room for a laparotomy by Pfannenstiel type incision which found a segmental-corporal rupture extended to the isthmus (Figure 1 and 2). A haemoperitoneum was found and blood loss was estimated at one litre. The extent of the lesions, her age and her desire for a future pregnancy led us to perform a uterine reconstruction. Following the operation, the patient's work-up showed anaemia of 9 g/dl haemoglobin and a correct haematocrit, the patient was not transfused. The patient was discharged after three days of hospitalization with a good evolution.



Fig 1: segmental-corporal rupture extended to the isthmus



Fig 2: Unicorn Uterus

Discussion

Complete uterine rupture is a solution of continuity transfixing the uterine wall, as well as the adjacent peritoneal sheet, which may occur spontaneously in 25% of cases or traumatically, following shock, obstetric or instrumental manoeuvres. The uterine lumen then communicates with the peritoneal cavity. Its incidence in France, whether the uterus is scarred or not, is estimated between 1/1000 and 1/2000 births depending on the series and reaches 1/100 in developing countries [1,2].

In a non-scarred uterus, its frequency is estimated to be between 1/17,000 and 20,000 deliveries [3]. It is noted that 17% of spontaneous ruptures occur before the onset of labour. The majority of published cases of rupture have occurred in late pregnancy or during labour [1,4]. The topography may be segmental, particularly inferior, which is the preferred site during labour, or corporal, for ruptures occurring before labour [1]. The significant disparities in fetal mortality rates (6.57-67.5%) between studies reflect situations that are not very comparable in time (from 1978 to 2004), location (America, Europe, Africa), type of rupture (complete or not) and obstetric history (scarred or not) [1,3,4]. It seemed to be accepted that the fetal mortality rate was higher in a non-scarred uterus [3]. For some authors this difference may be explained by the fact that rupture is unexpected in this group and more quickly suspected in the other [4]. Others believe that it is the presence of a pre-existing area of weakness, such as a previous scar, that is the cause of this discrepancy; the tear is *de novo* and does not follow any pre-existing pathway and may then spread to neighbouring organs [4]. Severe pelvic pain associated with metrorrhagia and a sensation of tearing are common, although none of these signs is really suggestive [5].

There has been some discussion about the attenuation of pelvic pain by epidural analgesia, so this sign is not considered to be critical [6]. The association of the signs fetal bradycardia and disappearance of uterine contractions considered pathognomonic by some authors seems not to be found by others. In fact, in a recent study, an internal pressure catheter was placed in 39 patients during their uterine rupture and it was found that they all presented either hypertonia or normal uterine tone [5]. Finally, it is common to find haemoperitoneum with shock [1]. There are delayed forms whose diagnosis must be evoked in the post-partum period for delivery haemorrhage that is not reversible by the use of oxytocin or for persistent abdominal pain [6]. The main obstetric differential diagnoses to be considered urgently are retroplacental haematoma with or without associated Hellp syndrome or a normally inserted placental abruption for which imaging can provide guidance [1,7]. Whatever the aetiology, only laparotomy, which must be performed urgently, will provide the diagnostic certainty. A cervical or vaginal wound should be eliminated by a gynaecological examination under valves [5].

In case of doubt and in the absence of any adverse fetomaternal sign, some authors have suggested carrying out additional examinations provided that management is not delayed. Transvaginal ultrasound is the easiest examination to access and has proven its usefulness in diagnosis [8]. Nevertheless, its normality does not exclude the diagnosis. Visualisation of a haemoperitoneum will lead to discussion of either obstetric haemorrhage due to uterine rupture or surgical haemorrhage due to another sub- or intraperitoneal vascular rupture [1]. The recommended management requires first intensive care followed by surgery, taking into account the extent of the injury, the desire to have further children, the general condition of the mother and the assessment of the risk to a future pregnancy. Ideally, it consists of conservative treatment by hysterorrhaphy. If the patient wishes, a tubal ligation can be performed in a second phase.

In situations where reconstruction seems impossible due to the extent of the lesions, a total or subtotal hysterectomy will be performed in extreme cases. Haemostasis is ensured if necessary by ligation of the uterine or ovarian arteries and especially the hypogastric arteries [1,4-6]. Subsequently, the risk of recurrence in the event of a new pregnancy varies from 4 to 19% depending on the series [1,5]. Most authors agree that the risk of recurrence is higher for a corporal scar than for a lower segment scar, estimated at 4 to 9% in the first case and 0.2 to 1.5% in the second [6]. There is no reason to contraindicate the patient from becoming pregnant again, provided that monitoring measures are undertaken. Although there is no real consensus on follow-up, it is clear that a new pregnancy will result in a prophylactic caesarean section. The gestational age at which the procedure should be performed, ideally at 38 weeks' gestation, will be determined on a case-by-case depending on the course of subsequent pregnancies, the type of uterine scarring, the age of onset of uterine rupture, and a history of preterm labour [9].

Conclusion

Uterine rupture in a non-scarred uterus is an exceptional and serious complication, which should be known by all obstetricians and evoked in the presence of a serious alteration in the fetal heart rate, whether or not associated with haemorrhage and sudden pelvic pain. Uterotonic treatment, very frequently used to induce or direct labour, should be closely monitored in all patients, particularly in multiparous women. The management of this condition is a vital emergency that affects the maternal and fetal prognosis, as well as the obstetrical outcome of the patients.

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