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Spontaneous Uterine Rupture in a 15-Week Pregnancy on an Unscarred Uterus: A Case Report and Literature Review

S Addi*,[1], F Chyate[1], A Assal[2], A Gotni[2], M Bensouda[2], H Mediani[2], M Jalal[2], A Lamrissi[2], and N Samouh[2]

[1]Resident Physician, Department of Gynecology and Obstetrics, at Ibn Rochd University Hospital, Casablanca, Morocco

[2]Professor in the Department of Gynecology and Obstetrics at the Ibn Rochd University Hospital in Casablanca, Morocco

***Corresponding author:** Salma Addi, Resident Physician, Department of Gynecology and Obstetrics, Ibno Rochd University Hospital, Casablanca, Morocco

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Abstract

Uterine rupture in a healthy uterus is a very rare obstetrical event. It is important because it remains associated with maternal mortality, particularly in developing countries, and with significant maternal morbidity, especially peripartum hysterectomy. It is also associated with a high incidence of perinatal mortality and morbidity worldwide.

Here we report a case Spontaneous Uterine Rupture in a 15-Week Pregnancy on an Unscarred Uterus

Introduction

Although uterine rupture in a healthy uterus is a rare obstetric complication, with an incidence of 0.5% **[1,2]**, its outcome can be disastrous **[3]**. Once it occurs, it progresses rapidly and directly threatens maternal-fetal life **[4,5]**.

There are many risk factors for uterine rupture, but the most common is a scarred uterus.

Spontaneous uterine rupture in a healthy uterus remains a rare event **[6]**. It has been reported that spontaneous rupture of a healthy uterus occurs in 1 in 15,000 **[7]**.

Case Report

This is a 29-year-old patient, married for 3 years, nulligravida, with a history of ectopic pregnancy on the right, treated by radical salpingectomy. She had no history of trauma, uterine surgery or intrauterine intervention, and no symptoms suggestive of Ehlers-Danlos syndrome in herself or family members.

The patient presented to our maternity unit at the Casablanca University Hospital with acute pelvic pain with blackish bleeding in an unattended pregnancy of 15 weeks' gestation.

On admission, the patient was hypotensive to 80/40 mm hg, tachycardic to 120 beats/min, temperature 36.5°C, conjunctivae slightly discoloured. Gynaecological examination under speculum showed blackish bleeding of endo-uterine origin with a purplish cervix; vaginal touch coupled with abdominal palpation revealed an enlarged uterus with generalized abdominal guarding.

Abdomino-pelvic ultrasound revealed a large effusion with uterine vacuity and the presence of a sac containing a 15-week-old pregnancy with no latero-uterine activity.

The patient was taken directly to the operating room, where she was prepared for an emergency laparotomy.

On exploration, a large hemoperitoneum was found in the first instance, which was aspirated with the presence of a 6cm uterine fundial rupture, as well as a latero-uterine sac

containing a 15-week-old fetus weighing 400g **(figure 1)**. Uterine reconstruction was performed **(Figure 2)**.

Laboratory results: Hb: 8,2 g/dL, PQ: 232,000, WBC 18,300, PT 90%, APTT 26. The patient received 2 packed red blood cells.

Post-operative management was straightforward, and the patient left our facility five days later.

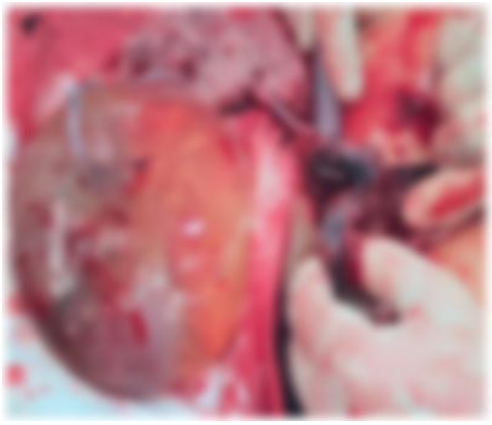

Figure 1: Spontaneous uterine fundial rupture / 15-week amenorrhea pregnancy

Figure 2: Conservative treatment / hysterorrhaphy

Discussion

Uterine rupture is an uncommon but extremely serious complication during pregnancy, with maternal mortality and morbidity reported as high as 20.8% to 64.6% **[8]**. It happens when the wall of the uterus completely tears, including the outer serosal layer, creating an open passage between the uterus and the abdominal cavity **[9]**.

This condition is most often linked to prior uterine surgeries. Procedures such as cesarean sections, myomectomies, cornual resections, or surgical repairs for uterine perforations can weaken the uterine wall and increase the risk of rupture **[10]**. Obstructed labor, incorrect use of oxytocin, and trauma during delivery are also recognized risk factors.

Interestingly, uterine rupture isn't always associated with surgical scars. Women who have given birth multiple times (multiparous women) are more prone to spontaneous rupture, even if their uterus has never been operated on **[11]**. Other factors that may trigger rupture in a previously healthy uterus include certain delivery techniques, difficult labor, overstimulation with uterotonics, abnormal fetal positions—especially transverse lie—cephalopelvic disproportion, excessive fundal pressure, abnormal placentation like placenta percreta, past curettage, congenital uterine malformations, and connective tissue disorders such as Ehlers-Danlos syndrome **[12,13]**.

In some rare situations, no clear cause can be identified. For example, in a study of 40 cases, Schrinsky and Benson reported that 10 uterine ruptures occurred without any known risk factors **[14]**.

The case we present here shows that rupture can happen even before labor begins and in women with no surgical history. One of the major difficulties with uterine rupture is that its symptoms are often vague and inconsistent, which can delay diagnosis **[15]**.

Treatment typically involves either surgical repair of the uterus or, in more severe cases, a hysterectomy if preservation of the uterus isn't possible **[16]**. Open (laparotomic) surgery tends to be more effective than laparoscopy in this context, offering better visibility and maneuverability for multilayer closure, faster bleeding control, and stronger repair **[17,18]**.

In our patient's case, we chose to repair the uterus (hysterorrhaphy), prioritizing the preservation of her fertility.

Conclusion

Uterine rupture is a major obstetric complication which often occurs without warning.

Despite the rarity of uterine rupture in a healthy uterus, there is always the possibility of its occurrence. This is something every practitioner needs to be aware of, especially in view of its misleading clinical picture.

It must be managed as a matter of urgency, with the mobilization of a multidisciplinary team.

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