

Uterine Rupture Complicated By a Retroperitoneal Hematoma: A Case Report

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ABSTRACT

Uterine rupture and retroperitoneal hematomas are all associated with increased risk for hemorrhage at the time of delivery. Prior cesarean section and Obstetric trauma are significant risk factors for uterine rupture. Except for the most superficial tears, these situations require surgical repair to restore proper anatomical appearance and to limit blood loss. Subtotal hysterectomy is common. Management of retroperitoneal Hematoma depends on the clinical situation. It can be managed conservatively, surgically, or through use of angiographic embolization. We report a case of a 28 years old woman who presents a uterine rupture complicated with retroperitoneal hematoma after vaginal delivery.

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Introduction

Uterine rupture on non-cicatrical gravid uterus is a relatively rare complication of pregnancy. Its incidence remains high in developing countries. Its occurrence is mainly associated with the large multiparity, the failure to take care of the pregnancy and the poor socio-economic level of the patients.

Observation

This is a 28-year-old patient, third gravida, with no medical-surgical history, having 2 vaginal childbirths without complications. The current third pregnancy, no prenatal assessment nor obstetric ultrasound is done. The beginning of labor was marked by an early rupture of the membranes with hematic fluid. The patient was admitted to complete dilation in a birthing house in rural area, having delivered vaginally with episiotomy. The delivery was marked by the use of uterine massage and uterine revision under cover of oxytocin (Syntocinon 20 IU), and subsequently a haemorrhage of delivery, with a TA = 09/06 cmHg, for which it was transferred to our hospital (with a travel time longer than 2 hours).

The examination on admission found a patient confused, with a generalized pallor, without petechiae, calves and thighs flexible, TA = 07/04 cmHg, with tachycardia. The vulvo-perineal inspection showed active red bleeding, speculum and vaginal examination was difficult because of the patient's instability. The patient was admitted to the operating room with conditioning: 2 peripheral venous lines, Trendelenburg position, oxygen therapy, blood pressure and cardiac monitoring, transfusion of 2 red blood cells, saline serum. Under general anesthesia, The first time was marked by a sedated examination with speculum and vaginal touch. The lesion report found a tear in the left vaginal pouch extended to the cervix, the isthmus and uterine body in the left lateral side without reaching the uterine fundus; there were no vulvo-perineal nor vaginal walls lesions associated.

At the 2nd operating time, a laparotomy was performed. On exploration, a haemoperitoneum of great abundance, a sub-serous hematoma, was found, taking the entire posterior wall of the bladder, the whole cervico-isthmic region reaching the mid-uterine body on the posterior surface of the uterus, and fusing under the retro-peritoneal back, encompassing right and left lumbar-ovarian ligaments and ureters up to L4-L5 level. The vesical and rectal walls not broken. Uterine rupture involved the cervix, the isthmus and the uterine body in the left side. Interannexial subtotal hemostasis hysterectomy was performed. Mechanical compression for 30 minutes was successful for hemostasis of the retroperitoneal hematoma under the cover of oxytocin, misoprostol and exacyl. The patient received 8 red blood units and 8 platelet pellets, 2 g amoxicillin-clavulanate, 3 liters of saline serum.

The initial assessment found: Hb = 7g / dl, plq = 61000 / mm³, GB = 22800 / mm³, normal hepatic, renal and troponin status.

After 5 hours of admission, the patient was extubated, conscious, hemodynamically and respiratory stable. The postoperative course was simple.

The biologic control showed: Hb = 14.1 g / dl, plq = 96000 / mm³, GB = 25700 / mm³, TP = 51%, TCA = 41s (limit of normal), normal hepatic, renal and troponin status.



Figure 1. Left postero-lateral view of the hysterectomy piece showing the uterine rupture interesting the left lateral side until the insertion of the left annex

Discussion

Uterine rupture [1] (defined here as a full-thickness tear through myometrium and serosa). The term "uterine rupture" should be reserved for those cases with complete separation of the wall of the pregnant uterus, with or without expulsion of the fetus, and which may acutely endanger the life of the mother and/or fetus.

Incidence varies [2]; 1:1500 women for all pregnancies; 1:8400 for unscarred uteri. Incidence of rupture with prior uterine scar (cesarean, myomectomy) ranges from 0.5–2% in developed countries. Maternal mortality is between 0.1–1% of cases. Risk factors: Uterine scar (e.g., prior classical cesarean, prior low transverse cesarean, previous uterine myomectomy), congenital uterine anomalies, multiparity (especially previous cesarean deliveries), fetal macrosomia, uterine instrumentation, uterine trauma, rapid progression of labor, polyhydramnios, abnormal placentation (e.g., accreta, percreta), placenta previa, pharmacologic induction, or augmentation of labor duration.

Several signs [3] of uterine rupture include non-reassuring fetal heart rate, maternal hemodynamic instability and maternal pain; however, a uterine rupture would ideally be diagnosed prior to the occurrence of maternal or fetal compromise.

The sudden onset of abdominal pain in a woman with previously successful epidural analgesia might be an indicative sign for complicated uterine rupture.

Unscarred and/ or lateral uterine rupture carried on worse prognosis for mother and child.

Effectively, encountered during labour, lateral uterine rupture location in unscarred uterus was associated with uterine vascular injury causing hemorrhage. The path of the uterine artery and veins were on the lateral sides of the uterine body giving numerous anterior and posterior branches. Indeed, uterine veins emerged within the broad ligament forming a large venous plexus especially during pregnancy. So, reduced blood supply to the fetus and massive maternal hemorrhage could occur, leading to high maternal blood loss in the pelvic retroperitoneum. Indeed, due to low level of clinical suspicion for uterine rupture in unscarred uterus, a delay for diagnosis could occur inducing massive hemorrhage [4].

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The literature for postpartum spontaneous retroperitoneal hematoma following vaginal delivery, found three cases reported by Alturki and al. [5], Gilboa and al. [6], and Rafi and al. [7]. The three cases were successfully managed conservatively similar to our case.

Hematoma in the retroperitoneal space has several associated factors [8] such as coagulation abnormalities, atherosclerosis, hypertension and arterial malformations [9,10]. In our case, no risk factor was found. Iatrogenic causes of puerperal retroperitoneal hematomas include manual removal of placenta, traumatic deliveries, inadequate hemostasis at Caesarean section, and anticoagulation therapy [7].

The injury of branches of the internal iliac arteries causes retroperitoneal hematomas in the context of uterine artery lacerations during uterine rupture, hysterectomy, or a paravaginal hematoma extended to retroperitoneum space [5].

Treatment

The therapeutic management of uterine rupture is surgical [11]. It must be performed without delay for haemostatic and restorative purposes. After externalization of the uterus, the inspection is essential and must be meticulous to check the seat, the appearance, the possible extension of the lesion, and the state of the tissues. Two techniques are possible depending on the characteristics of the uterine rupture. The first "conservative" consists of performing a uterine suture [12,13,14]. This rapid technique makes it possible to preserve the reproductive function, but it is only possible on small lesions. Extra-mucosal overcasting with resorbable thread on the lower segment, and a two-level suture (muscular and seromuscular) with nonabsorbable thread on the uterine body. The second "radical" is to perform a total or subtotal hysterectomy. It remains the technique of choice in cases of severe lesions or haemodynamic disorders.

Management options consist of surgical repair and hysterectomy [1] with hysterectomy rates of 26% to 83%. [15]

Most authors consider hysterectomy to be the procedure of choice for uterine rupture [16,17]. Subtotal hysterectomy may be performed if the rupture is confined to the uterine corpus. Evidence has shown that subtotal hysterectomy is associated with decreased operating time, lower morbidity and mortality, and shorter hospital stay compared with surgical repair [18]. Suture repair may be considered when technically feasible and there is a desire for future fertility. However, there is an increased risk of recurrence, which may be fatal.

Repair has also been advocated if successful control of hemorrhage can be attained in hemodynamically unstable patients, avoiding further blood loss and prolonged surgery during hysterectomy.

The need for massive transfusion usually accompanies operative management of uterine rupture.

Management of retroperitoneal Hematoma depends on the clinical situation. It can be managed conservatively, surgically, or through use of angiographic embolization. Emergency surgery is indicated if the patient is in hemorrhagic shock or a secondary complication such as a bowel obstruction or ischemia. The procedure involves dissection and evacuation of the hematoma and search for the bleeding point [19]. Packing of retroperitoneal space may also be tried to tamponade retroperitoneal hemorrhage. Expansion of retroperitoneal hematomas can be limited by the spontaneous self-tamponading effect that can occur in the confined retroperitoneal space then it can be spontaneously resorbed. Surgical evacuation of a retroperitoneal hematoma may lead to undue dissection and a devastating outcome if not performed by an experienced surgeon.

Conclusion

Postpartum hemorrhage after traumatic delivery should lead to suspect uterine rupture and many other complications, but once the complication is recognized, prompt intervention is required. Surgical intervention is a critical aspect of management for all of these patients. The subtotal hysterectomy is the adequate treatment if the rupture is extended to uterine vessels. The tamponading effect on the bleeding source is preferable.

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