Successful Management of a Periviable Pregnancy with Morbidly Adherent Placenta after Uterine Rupture

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Abstract

Background: Although rare, trauma in pregnancy can cause uterine rupture. In a periviable pregnancy, uterine rupture can lead to premature delivery and significant morbidity.

Case: A 29-year-old woman with four prior CSs presented with uterine rupture and a protruding morbidly adherent placenta at 23+4 weeks of gestation. Since the pregnancy was highly desired, the defect was repaired and the decision made to continue with the pregnancy. The patient presented at 29+3 weeks of gestation with preterm labour and subsequently delivered a healthy male infant of 1130 grams.

Conclusion: Expectant management followed by CS can be beneficial in certain cases of uterine rupture with morbidly adherent placenta following trauma. This is especially the case in a periviable pregnancy, since prolonging the pregnancy will improve neonatal outcomes. We recommend individualized management based on clinical presentation, imaging findings, and the patient's wishes.

Résumé

Contexte : Bien que ce soit rare, le trauma pendant la grossesse peut causer une rupture utérine. Dans le cas d'une grossesse périviable, la rupture utérine peut entraîner un accouchement prématuré et une morbidité importante.

Cas : Une femme âgée de 29 ans qui avait déjà eu quatre accouchements par césarienne s'est présentée avec une rupture utérine et un placenta adhérent morbide saillant, à 23 semaines et 4 jours de grossesse. Étant donné que la grossesse était vraiment désirée, le défaut a été réparé et on a pris la décision de maintenir la grossesse. La patiente s'est présentée à 29 semaines et 9 jours de grossesse avec un travail prématuré et a donné naissance à un garçon en bonne santé qui pesait 1130 grammes.

Conclusion : La prise en charge non interventionniste, suivie d'une césarienne peut être avantageuse dans certains cas de la rupture utérine caractérisée par un placenta adhérent morbide, à la suite d'un trauma. Il s'agit là spécialement d'un cas de grossesse périviable, puisque le fait de maintenir la grossesse améliore les issues néonatales. Nous recommandons que la prise en charge se fasse selon les cas, en fonction de la présentation clinique, des résultats d'imagerie et de ce que la patiente souhaite.

Key Words: Rupture, morbidly adherent placenta, periviable, expectant

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INTRODUCTION

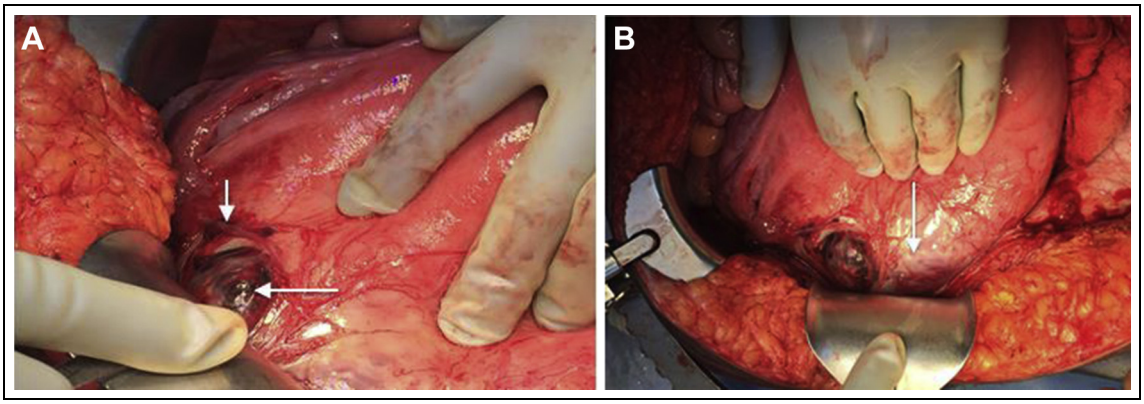
Uterine rupture occurs in less than 1% of pregnancies following abdominal trauma, but it may lead to a grave prognosis for both fetus and mother.[1] Cases of uterine rupture or dehiscence in mid-gestation due to scars from prior surgery or from unknown reasons with subsequent repair have been described.[2–6] However, uterine rupture after trauma with repair and maintenance of pregnancy has not been described in the literature. We report here the first case of conservative management of uterine rupture due to trauma in a woman with a periviable pregnancy and morbidly adherent placenta.

THE CASE

A 29-year-old woman gravida 5 para 4 with four prior CSs, suffered acute abdominal trauma after a fall due to suspected domestic abuse at 23+4 weeks of gestation. Her past medical history included chronic hypertension, for which she was taking labetalol 100 mg twice daily. She had developed superimposed preeclampsia during her third pregnancy and had to be delivered at 32 weeks of gestation.

She was transferred from another institution for evaluation of free fluid in the pelvis noted on pelvic ultrasound examination. During her evaluation in our emergency

Figure 1. Intraoperative findings at 23+4 weeks of gestation. (A) Defect of the lower uterine segment (short arrow) with protrusion of the placenta (long arrow). (B) Uterine bulging and increased vascularity suggestive of a morbidly adherent placenta (arrow)



department, she described having constant generalized abdominal pain. She denied any contractions, bleeding, or leaking of fluid. She was well oriented with a blood pressure of 136/85, respiratory rate 24 breaths per minute, heart rate 106 beats per minute, temperature 36.7°C, and pulse oximetry 98% on room air. Physical examination revealed the presence of diffuse abdominal tenderness with guarding. No rebound tenderness or distension was noted and bowel sounds were normal. Fetal heart rate monitoring showed a baseline of 155 beats per minute with moderate variability and absence of decelerations. No contractions were noted. A hematology profile was unremarkable except for a hemoglobin concentration of 8.8 g/L. A bedside fetal ultrasound examination showed appropriate fetal movements and cephalic presentation, a gestational age consistent with 23+1 weeks, an estimated fetal weight of 563 grams, normal amniotic fluid, and an anterior placenta with no evidence of placenta previa or accreta. An abdominal and pelvic CT scan without contrast was also performed. The patient was counselled about the possible need for surgery.

Before the CT scan results were available, her abdominal pain worsened and she was taken to the operating room for an emergency exploratory laparotomy that was performed by the trauma team. Extensive intra-abdominal adhesions and approximately 700 mL of blood in the peritoneal cavity were identified. Uterine rupture, 4 cm in diameter, was noted in the right anterior aspect of the lower uterine segment, with protrusion of the placenta (Figure 1). The obstetrical team, already in the operating room, continued with the operation. The lower uterine segment was seen to be bulging, with increased vascularity suggestive of a morbidly adherent placenta, and there was a small and stable hematoma extending from the inferior aspect of the cecum to the round ligament. The placental protrusion was reduced, and the endometrial defect was closed with a running horizontal suture of size 0 polyglactin that incorporated the myometrium and was placed in an imbricating fashion to avoid the fetal membranes. A second interrupted layer of the same suture was used to close the serosa. Absorbable hemostatic powder (Arista AH, Bard Davol Inc., Warwick, RI) was injected superficially into the repair site, resulting in excellent hemostasis. A subsequent review of the CT scan images showed a uterine rupture with placental tissue invading the myometrium (Figure 2). During hospitalization, the patient received a course of corticosteroids, but no tocolytic agents

Figure 2. CT scan at 23+4 weeks of gestation showing a defect in the anterior lower uterine wall. Clear demarcation between the placenta and the myometrium is absent. R: rupture site; F: fluid (found to be blood) extending into the peritoneal cavity; P: placenta; H: head of the fetus