

Spontaneous rupture of a nongravid uterus: a case report



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Rupture of a gravid uterus is a known complication of a cesarean hysterotomy. Uterine rupture of a nongravid uterus is usually caused by trauma, instrumentation, a pelvic mass, infection, or malignancy. Spontaneous rupture of a nongravid uterus is a rare event with only 4 cases reported in the English literature since 2011.

This was the case of a healthy 52-year-old woman with a remote history of 2 cesarean deliveries and an endometrial ablation. The patient presented with severe right lower-quadrant pain. The hospital evaluation revealed a hemoperitoneum, a 5 cm endometrial complex or mass, and layering of blood product along the cesarean delivery scar. Exploration confirmed a spontaneous rupture of the previous hysterotomy. The patient was treated successfully with a total abdominal hysterectomy. Pathology report confirmed the uterine wall defect.

Uterine rupture in the non-gravid uterus is a rare event. Presentation may be atypical but consistent with the diagnosis. Spontaneous uterine rupture should be considered in the nongravid patient with abdominal pain and a hemoperitoneum of unclear origin.

Key words: ablation, cesarean, hematometra, uterine rupture

Introduction

Rupture of a gravid uterus is a known complication of a cesarean hysterotomy. Uterine rupture of a nongravid uterus is usually caused by trauma, instrumentation, a pelvic mass, infection, or malignancy. Spontaneous rupture of the nongravid uterus is a rare event with only 4 cases reported in the English literature since 2011.^{1–4}

Case

A healthy 52 year-old female G2P2002 presented to the emergency department on November 25, 2022, complaining of significant right lower-quadrant pain. Past surgical history was significant for 2 cesarean deliveries, the last one

performed 19 years before the current admission, and an endometrial ablation was performed for persistent menses 1 year before the current admission. A Papanicolaou smear and an endometrial biopsy that were performed for persistent abnormal uterine bleeding 4 months before admission were within normal limits. The patient stated that she had cessation of menses in May 2022. She had no history of pelvic infections.

Upon admission, the patient had a normal hemoglobin level. Her vital signs were stable. An ultrasound of the pelvis noted a 5 cm endometrial mass concerning for carcinoma and a small amount of hyperdense ascites in the pelvic gutters. The recommendation was for a pelvic magnetic resonance imaging (MRI) evaluation. The patient remained stable overnight and had improvement in the pelvic pain the next morning. Her hemoglobin level dropped from 12.8 g to 11.4 g.

An MRI was performed. Review of the images, along with additional review of the previous ultrasound, showed concern for disruption of the cesarean delivery scar with increased hemoperitoneum. The volume of the endometrial mass appeared to be decreased (Figures 1–2).

The patient was informed of all the findings and was scheduled for a diag-

nostic laparoscopy and hysteroscopy with possible total abdominal hysterectomy and bilateral salpingo-oophorectomy. Findings during the laparoscopy included a 300 mL hemoperitoneum, 14-week gestational age sized uterus, and a suspected defect of the hysterotomy scar in the left lower uterine segment. Findings during the hysteroscopy confirmed active bleeding from the left anterior midportion of the uterus.

The patient underwent a total abdominal hysterectomy, bilateral salpingectomy, and left oophorectomy (because of bleeding from the infundibulopelvic ligament). Gross evaluation of the specimen revealed a clear defect in the hysterotomy scar. This was documented during the pathologic evaluation of the specimen (Figure 3). The final pathologic examination revealed the following: (1) gross perforation of the uterus with serositis; (2) multifocal adenomyosis with cystic changes in the myometrium; (3) benign endometrium with tubal metaplasia and focal hyperplasia; (4) leiomyoma; and (5) benign cervix, fallopian tubes, and left ovary.

The patient had an uneventful postoperative course.

Discussion

It is the opinion of this author that this patient developed a postablation

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The authors report no conflict of interest.

Patient consent was obtained before submitting the case report and is available for review if requested.

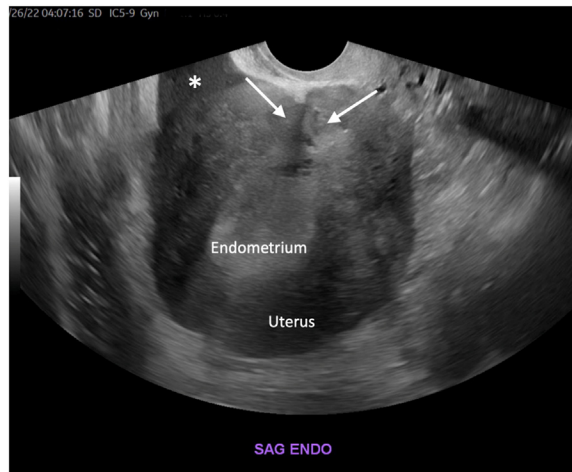
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FIGURE 1
Ultrasound Images showing concern for disruption of the cesarean scar



Grayscale ultrasound image of the uterus with midline defect of the myometrium at the lower anterior uterine segment shown by the white arrows with adjacent complex fluid compatible with blood products accumulating anterior cul-de-sac demarcated by the white asterisk.

Tapia-Sandiago. Spontaneous rupture of a non-gravid uterus. Am J Obstet Gynecol Glob Rep 2024.

FIGURE 2
Pelvic MRI showing disruption of the cesarean scar and accumulating blood products



Sagittal T2 weighted image of the pelvis shows a midline defect of the myometrium at the lower anterior uterine segment (*white arrow*). T2 intermediate signal intensity fluid in the anterior cul-de-sac is compatible with blood products (*white asterisk*).

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FIGURE 3
Pathologic evaluation of specimen confirms the defect



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hematometra that eventually led to weakening of the lower uterine segment and spontaneous rupture of the hysterotomy scar. The rupture and evacuation of the hematometra accounted for both the improvement in pain overnight and the decrease in the hemoglobin. This was an unusual event, cited sparingly in literature.¹⁻⁴ We encourage clinicians to consider complex diagnostic scenarios for patients with a history of multiple obstetrical-gynecologic surgical procedures. ■

CRediT authorship contribution statement

Cecille A. Tapia-Santiago: Writing – original draft, Writing – review & editing. **Dalanda Diallo:** Writing – review & editing.

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