Hemorrhage of Ectopic Deciduosis
Necessitating Emergent Surgical Resection

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Introduction
Ectopic deciduosis is a common finding in pregnant patients and is rarely symptomatic.¹ Decidua is the name that is applied to the mucous membrane of the uterus in preparation of the ovum during the cytotrophic phase of gestation.² Although it is a common phenomenon, there are only nine reported cases of life-threatening intraperitoneal hemorrhage and one incidence of massive gastrointestinal hemorrhage during pregnancy in the English language since 1900.³ We present a unique case of life-threatening hemorrhagic deciduosis at the time of caesarean section.

Case Report
A 26-year-old primigravida, on an out-of-state business trip and at 35 weeks gestational age with an obstetric history remarkable only for gestational diabetes mellitus, type A1 (GDM A1), was admitted to labor and delivery for painful contractions and vaginal bleeding. The patient underwent a primary, low flap caesarean section for failure of fetal descent and persistent deep variable decelerations of fetal heart rate. Significant post-partum bleeding was noted and the patient was treated for uterine atony with oxytocin and methylergonovine maleate.

The pelvis was explored and a massive amount of blood was found along the posterior aspect of the uterus with abundant hemorrhagic lesions covering the uterus and adnexae. Other findings included a left hemicolon densely adherent to the left fallopian tube and ovary, an inflammatory process obliterating the posterior cul-de-sac, and a fungating hemorrhagic vascular mass of tissue on the antimesenteric portion of proximal sigmoid colon.

A 9.3 cm segment of colon was resected containing florid nodules of deciduosis. Surgical pathology (see Figures 1 and 2) revealed multiple extensive areas of ectopic decidual tissue and acute hemorrhage in the colonic serosa, polypoid submucosal nodules, pericolonic fat, left fallopian tube and left ovary; the largest nodule measured 5.0 x 0.4 x 0.4 cm. The right fallopian tube and ovary were left intact and the uterus was returned to the abdominal cavity.

During her operative course, there was an estimated blood loss of 1.5 liters and six units of packed red blood cells were transfused along with six liters of crystalloid. She was transferred to the surgical ICU on a ventilator, because of the significant fluid changes and a prolonged surgery. The patient was stabilized without complications and discharged from the hospital the following week. She has since been lost to follow-up.
Figure 1. Deciduosis within submucosa of the colon (hematoxylin and eosin stain, x 100).

Figure 2. Deciduosis along the margin of resected colon.

Discussion

The etiology of deciduosis is unclear. It may be related to increased levels of progesterone and its effects on sub-coelomic stromal cells during pregnancy,4 however, ectopic deciduosis has been noted in nulliparous patients.5,6 Malpica and colleagues1 noted that gross massive lesions are rare and seldom evident. In most instances, lesions are only 0.2 to 2.0 cm in their maximum dimension. In contrast, our case revealed copious gross decidual lesions that surpassed these measurements.

Nine cases of life-threatening intraperitoneal decidual hemorrhaging were reported from 1900-2006.3 Eight of the nine previous encounters of this disease presented with lower abdominal pain. Other associated symptoms included gross deciduosis peritonei obstructing labor,1 vaginal bleeding,7 hydronephrosis,8 hematuria,8 appendicitis,9 and pneumothorax.10

Our patient had no previous medical history other than GDMA1 and exercise-induced asthma. Diabetes in conjunction with hypertension was tied to decidual arteriopathy,11 but not ectopic decidualization. There were no associations with asthma.

Of the nine reported cases of intraperitoneal hemorrhage, there were two maternal and five neonatal deaths, whereas our patient and her neonate survived with little morbidity. In a similar scenario, Bashir and colleagues12 found massive gastrointestinal hemorrhage during pregnancy caused by deciduosis of the terminal ileum and colon. Their patient, however, presented with acute, new onset, massive hematochezia at 20-weeks gestational age. The patient also had a previous history of multiple medical and gynecological complications including, renal cell carcinoma, endometriosis, and four miscarriages.

Of the nine cases reported by O’Leary3, four had preterm births, as did our patient. There are currently no studies in the literature that included ectopic deciduosis as a cause of preterm labor, but decidua is known to produce prostaglandins.13 The irreversible, committed step of the prostaglandin biosynthetic pathway is catalyzed by the prostaglandin endoperoxide H synthase isoenzymes (PGHS-1 and 2).

Mijovid and colleagues13 found that PGHS-1 and 2 mRNA levels were increased in idiopathic preterm labor. The presence of ectopic decidua may have increased the level of prostaglandins and induced labor. In fact, in cases of cervical deciduosis, patients were at increased risk for miscarriage and preterm delivery.14
In summary, ectopic deciduosis should be considered in cases of severe hemorrhage during labor in patients with a benign obstetric history. There should be heightened concern in preterm labor patients as ectopic decidua may increase prostaglandin levels. Though all conjectures about preterm labor and ectopic deciduosis are speculative, further investigation may be warranted.

References

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