



Hemorrhage of Ectopic Deciduos Necessitating Emergent Surgical Resection

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Introduction

Ectopic deciduos 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 deciduos 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 (GDMA1), 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 pos-

terior 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 deciduos. 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.

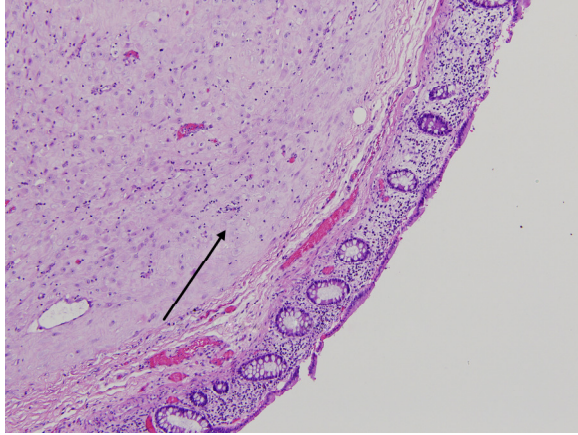


Figure 1. Deciduous within submucosa of the colon (hematoxylin and eosin stain, x 100).



Figure 2. Deciduous along the margin of resected colon.

Discussion

The etiology of deciduous is unclear. It may be related to increased levels of progesterone and its effects on sub-coelomic stromal cells during pregnancy,⁴ however, ectopic deciduous 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 deciduous lesions that surpassed these measurements.

Nine cases of life-threatening intra-peritoneal deciduous 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 deciduous 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 deciduous arteriopathy,¹¹ but not ectopic deciduous-ization. There were no associations with asthma.

Of the nine reported cases of intra-peritoneal 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 deciduous 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 deciduous 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 deciduous, patients were at increased risk for miscarriage and preterm delivery.¹⁴

In summary, ectopic deciduos 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 deciduos are speculative, further investigation may be warranted.

References

- ¹ Malpica A, Deavers MT, Shahab I. Gross deciduos peritonei obstructing labor: A case report and review of the literature. *Int J Gynecol Pathol* 2002; 21:273-275.
- ² Melody GF. Deciduation and massive hemorrhage of the omentum in the final month of pregnancy. *West J Surg Obstet Gynecol* 1950; 58:460-462.
- ³ O'Leary SM. Ectopic decidualization causing massive postpartum intraperitoneal hemorrhage. *Obstet Gynecol* 2006; 108(3 Pt 2):776-779.
- ⁴ Zaytsev P, Taxy JB. Pregnancy-associated ectopic decidua. *Am J Surg Pathol* 1987; 11:526-530.
- ⁵ Elemenoglou J, Trihia H, Zizi-Serbetzoglou A, Bournia H, Vasilakaki T. Deciduoma of the sigmoid colon in a nulliparous woman. A case report. *Eur J Gynaecol Oncol* 1996; 17; 140-143.
- ⁶ Rodriguez FJ, Abraham SC, Sendelbach KM, Nascimento AG. Florid decidual reaction mimicking gastrointestinal malignancy in a primipara woman. *Histopathology* 2006; 49:82-85.
- ⁷ Orr CJ, Pedlow PR. Deciduos of the cervix manifesting as antepartum hemorrhage and simulating carcinoma. *Am J Obstet Gynecol* 1961; 82:884-886.
- ⁸ Bettinger HF. Ectopic decidua in the renal pelvis. *J Pathol Bacteriol* 1947; 59:686.
- ⁹ Löfwander M, Haugen G, Hammarström C, Røkke O, Mathisen Ø. [A pregnant woman with abdominal pain and fever]. (Norwegian.) *Tidsskr Nor Laegeforen* 2007; 127:2528-2529.
- ¹⁰ Flieder DB, Moran CA, Travis WD, Koss MN, Mark EJ. Pleuro-pulmonary endometriosis and pulmonary ectopic deciduos: A clinicopathologic and immunohistochemical study of 10 cases with emphasis on diagnostic pitfalls. *Hum Pathol* 1998; 29:1495-1503.
- ¹¹ Kitzmiller JL, Watt N, Driscoll SG. Decidual arteriopathy in hypertension and diabetes in pregnancy: Immunofluorescent studies. *Am J Obstet Gynecol* 1981; 141:773-779.
- ¹² Bashir RM, Montgomery EA, Gupta PK, et al. Massive gastrointestinal hemorrhage during pregnancy caused by ectopic decidua of the terminal ileum and colon. *Am J Gastroenterol* 1995; 90:1325-1327.
- ¹³ Mijovic JE, Zakar T, Angelova J, Olson DM. Prostaglandin endoperoxide H synthase mRNA expression in the human amnion and decidua during pregnancy and in the amnion at preterm labour. *Mol Hum Reprod* 1999; 5:182-187.
- ¹⁴ Nikolov A, Negentsov N, Maïnkhard K, Mekhandzhiev Ts. [Course of pregnancy and delivery in cases with cervical deciduos.] (Bulgarian.) *Akush Ginekol (Sofia)* 2007; 46:3-7.

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