

Extensive uterine decidualosis as cause for spontaneous hemoperitoneum in pregnancy

Deciduose uterina exuberante como causa de hemoperitoneu espontâneo na gravidez

Diana Margarida Monteiro¹, Mafalda Laranjo¹, Inês Sarmiento Gonçalves¹, Fátima Soares¹
Unidade Local de Saúde de Matosinhos – Hospital Pedro Hispano

Abstract

Ectopic decidualization is usually an incidental finding during surgical approach of a pregnant abdominal cavity. It presents as one or multiple friable and haemorrhagic lesions. We report a pregnant woman presenting with intense abdominal pain at 36 weeks and known placenta previa. During c-section, hemoperitoneum was observed originating on an exuberant friable and highly haemorrhagic lesion, covering the posterior uterine surface, both adnexal regions and the anterior wall of the rectum. Haemostasis was done with conservative measures and the patient had favourable outcome. Deciduosis is a benign entity and should be managed conservatively to prevent iatrogenic lesions.

Keywords: Hemoperitoneum; Pregnancy complications; Decidua.

Resumo

A decidualização ectópica é habitualmente um achado incidental durante a intervenção cirúrgica da cavidade abdominal durante a gravidez. Identifica-se como uma ou múltiplas lesões friáveis e sangrantes. Reportamos o caso duma mulher com 36 semanas de gestação, complicada por placenta prévia, que recorre ao serviço de urgência por dor abdominal intensa. Durante a cesariana constatou-se hemoperitoneu proveniente de sangramento ativo duma lesão friável exuberante que cobria toda a face uterina posterior, as regiões anexiais bilateralmente e a face anterior do reto. A hemostase foi conseguida com medidas conservadoras e a doente teve um desfecho favorável. A deciduose é uma entidade benigna que deve ser tratada conservadoramente sempre que possível para prevenir lesão iatrogénica.

Palavras-chave: Hemoperitoneu; Complicações da gravidez; Decidua.

INTRODUCTION

Decidualization is a structural and functional modification of the endometrium caused by progesterone-mediated stimulation during pregnancy^{1,2}. Although this intrauterine alteration is vital for the success of pregnancy, ectopic decidua (or deciduosis) can occur in other locations, such as the cervix, vagina,

abdominopelvic cavity and even more rarely the lungs and skin^{1,3,4}. This entity is most frequently described in pregnant women, but some cases of non-pregnant and even postmenopausal women have been reported⁵⁻⁷. The etiopathogeny is not fully understood, although there is some association to preexisting endometriosis⁸. It is usually an incidental finding during c-section, surgical management of ectopic pregnancy, postpartum tubal ligation or other surgical abdominal interventions during pregnancy in previously asymptomatic women⁹.

1. Hospital Pedro Hispano – Unidade Local de Saúde de Matosinhos.

Mild symptoms may occur, such as abdominal pain or irritable bowel syndrome^{10,11}. However, due to the highly vascularized and friable lesions, it can also present as potentially life-threatening maternal and/or foetal situations, mostly due to haemorrhagic conditions: genital bleeding, hemoperitoneum (before, during or after labour) and even as lower gastrointestinal bleeding^{4,5,12-15}.

In some cases, due to the exuberant macroscopic appearance, only a biopsy can establish the diagnosis and exclude the presence of malignancy or peritoneal tuberculosis^{7,15}. Nonetheless, high suspicion and familiarity with this entity can spare a potentially highly haemorrhagic iatrogenic lesion, since decidualosis spontaneously regresses in four to six weeks postpartum, as well as in the physiologic process of decidualization^{5,6,9,16,17}. If ectopic decidualization is highly likely, minimal manipulation and the most conservative measures should be performed to avoid adverse permanent morbidity, such as hysterectomy^{5,6}.

CASE REPORT

A primigravida in her early 30s, previously healthy, with an uneventful pregnancy except for the diagnosis of posterior placenta previa, for which she had no known risk factors, was admitted to the Emergency Department at 36 weeks and 1 day due to severe abdominal pain and regular uterine contractions. Gentle vaginal evaluation showed no vaginal bleeding or cervical dilation. Obstetric ultrasound showed a foetus in cephalic presentation with normal amniotic fluid and normal umbilical artery doppler velocimetry and a posterior placenta previa with no evidence of abruption. Cardiotocography showed no signs of foetal distress but regular uterine contractions. Persistence of intense complaints despite analgesic medication increased the suspicion of early-stage preterm labour. Due to the subsequent risk of placental haemorrhage, an immediate c-section was decided. When the abdominal cavity was reached and before the uterine incision, moderate volume hemoperitoneum was observed, mostly limited to the pelvic cavity and lower abdomen. The foetus was immediately extracted, with an Apgar Score of 9, 10 at the 1st and 5th minutes, respectively, and a weigh of 2790 g. The



FIGURE 1. Friable and highly haemorrhagic lesion covering the posterior surface of the uterus and both adnexal regions.

placenta was easily removed, showing no signs of previous detachment. Following the uterine incision closure, further abdominal cavity inspection revealed the only additional haemorrhagic source as an extensive lesion of friable and superficially vascularized tissue covering the posterior uterine wall, both adnexal regions and anterior wall of the rectum (Figure 1). Due to the macroscopic appearance and typical location, in spite of the extensive distribution, decidualosis was suspected, for which no biopsy was performed. Haemostasis was achieved with electrocoagulation and a reabsorbable oxidized cellulose meshwork. A drain was placed on the Douglas Pouch for blood loss surveillance. The postoperative hemoglobin value was 9,2 g/dl (12 g/dl preoperative) and the patient was managed conservatively with iron supplementation. After an initial difficult pain management and constipation, she had a favourable evolution and was discharged on the 9th postoperative day without further complications. Puerperal evaluation at 4 weeks postpartum had no relevant findings, namely no lesions visualized on gynaecological ultrasound or further episodes of abdominal pain suggestive of intraabdominal bleeding. She recovered completely and had a second pregnancy 3 years later, also complicated by placenta previa. During the second c-section no decidualosis was described, but extensive intraabdominal adhesions were found.

DISCUSSION

Ectopic decidualization is mostly an incidental finding during surgery, but may be the cause of severe hemoperitoneum and other haemorrhagic complications. The differential diagnosis of these lesions is malignancy (such as peritoneal mesothelioma) or tuberculosis. Due to the macroscopic resemblance of these diseases in some cases, biopsy should be done to establish the diagnosis¹⁸. Whenever suspicion of this benign entity and surgical risk of biopsy are high, conservative haemostasis should be employed and unnecessary manipulation avoided due to the good prognosis and spontaneous regression of the lesions within four to six weeks postpartum^{5,6}.

REFERENCES

1. Markou GA, Goubin-Versini I, Carbanaru OM, Karatzios C, Muray JM, Fysekidis M. Macroscopic decidualization in pregnancy is finally a common entity. *Eur J Obstet Gynecol Reprod Biol* 2016 Feb;197:54-8
2. Abramowicz S, Kouteich K, Grémain J, Sabourin JC, Marpeau L, Sergent F. Giant ectopic peritoneal and omental decidualization mimicking a peritoneal carcinomatosis. *Gynecol Obstet Fertil* 2014 Mar;42(3):182-4
3. Ng SW, Norwitz GA, Pavlicev M, Tilburgs T, Simón C, Norwitz ER. Endometrial Decidualization: The Primary Driver of Pregnancy Health. *Int J Mol Sci* 2020 Jun;21(11):4092.
4. Lepage F, Schramm B. Decidualization of the uterine cervix. *Gynecol Obstet* 1955;54:550-63.
5. Semenova T, Metello J, Almeida M, Leite C, Santos A. Ectopic Decidualization as a cause of intra-caesarean hemorrhage. *Acta Obstetrica e Ginecologica Portuguesa* 2013;7(4):316-319
6. Mendes J, Costa A. Ectopic Decidualization: A Forgotten Entity. *Acta Med Port* 2016 Jan;29(1):63-72
7. Casanova J, Jurgiel J, Henriques V. Peritoneal decidualization mimicking peritoneal Carcinomatosis: A case report. *Gynecol Oncol Rep* 2021 Jul 2;37:100827
8. Masouridou S, Mamopoulos A, Mavromatidis G, Karagiannis V. Endometriosis and perinatal outcome – a systematic review of the literature. *Curr Women's Health Rev* 2012;8:121-30
9. Buttner A, Bassler R, Theele C. Pregnancy-associated ectopic decidua (decidualization) of the greater omentum. An analysis of 60 biopsies with cases of fibrosing decidualization and leiomyomatosis peritonealis disseminata. *Pathol Res Pract* 1993 Apr;189(3):352-9
10. Salehgargari S, Sahebdeh B, Zare A, Abolhassani H. Ectopic Decidual Reaction Mimicking Irritable Bowel Syndrome: A Case Report. *Acta Med Iran* 2014;52(1):88-90
11. Kondoh E, Shimizu M, Kakui K, Mikami Y, Tatsumi K, Konishi I. Decidualization can cause remarkable leukocytosis and obscure abdominal pain. *J Obstet Gynaecol Res* 2012;38:1376-8.
12. Nishikawa A, Kondoh E, Hamanishi J, Yamaguchi K, Ueda A, Sato Y, Konishi I. Ileal perforation and massive intestinal hemorrhage from endometriosis in pregnancy: case report and literature review. *Eur J Obstet Gynecol Reprod Biol* 2013;170:20-4.
13. Aziz U, Kulkarni A, Lazic D, Cullimore JE. Spontaneous rupture of the uterine vessels in pregnancy. *Obstet Gynecol* 2004;103:1089-91.
14. Mizumoto Y, Furuya K, Kikuchi Y, Aida S, Hyakutake K, Tamai S, Nagata I. Spontaneous rupture of the uterine vessels in a pregnancy complicated by endometriosis. *Acta Obstet Gynecol Scand* 1996;75:860-2.
15. O'Leary SM. Ectopic decidualization causing massive postpartum intraperitoneal hemorrhage. *Obstet Gynecol* 2006;108:776-9.
16. Zaytsev P, Taxy JB. Pregnancy associated ectopic decidua. *Am J Surg Pathol* 1987;11:526-30.
17. Bolat F, Canpolat T, Tarim E. Pregnancy-related peritoneal ectopic decidua (decidualization): morphological and clinical evaluation. *Turk Patoloji Derg* 2012;28(1):56-60.
18. Canlorbe G, Goubin-Versini I, Azria E, Abdul-Razak R, Muray JM. La déciduose ectopique: variabilités de présentation pendant la grossesse et diagnostics différentiels [Ectopic decidua: variability of presentation in pregnancy and differential diagnoses]. *Gynecol Obstet Fertil* 2012 Apr;40(4):235-40.

AUTHORS' CONTRIBUTION

DM and FS were directly responsible for the initial approach to the patient on the emergency department and surgical approach; DM, ISG, ML were closely involved in the follow up of the patient. All authors were major contributors in writing the manuscript. All authors read and approved the final manuscript.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

INFORMED CONSENT

Patient consent was obtained in written.

CORRESPONDENCE TO:

Diana Margarida Monteiro
E-mail: diana_monteiro@hotmail.com
<https://orcid.org/0000-0001-9238-7158>

RECEIVED: 26/04/2022

ACCEPTED: 28/05/2022