

Utero-placental apoplexy during induction of therapeutic abortion in a 18-week pregnancy

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Abstract. – Utero-Placental Apoplexy, or Couvelaire Uterus, is a third-trimester major obstetrical complication, occurring especially during labor. It consists of placental abruption followed by an acute intradecidual hemorrhage produced by the rupture of the uterus-placental spiral arterioles leading to a retroplacental hematoma. This hemorrhage infiltrates the uterine wall up to intra- and retro-peritoneal areas.

We provide a case report, on which no previous literature is available, of a utero-placental apoplexy during induction of therapeutic abortion.

Key Words:

Utero-placental apoplexy, Couvelaire uterus, Therapeutic abortion.

Introduction

Utero-Placental Apoplexy, or Couvelaire Uterus (named after the physician who described it for the first time in 1911) is a rare and severe complication of placental abruption. It occurs during the third trimester in the 0.3% of pregnancies^{1,2}. This massive retroplacental hemorrhage quickly consumes the maternal coagulation factors, and can eventually lead to fibrinogen deficiency, anemia, and disseminated intravascular coagulation (DIC).

Severe cases of abruption can result in a major retroplacental hematoma, and in a hemorrhagic infiltration between myometrial fibers (Figure 1). In extreme cases, this can lead to utero-placental apoplexy³.

In the majority of cases, this is a third-trimester complication, occurring in particular during the second stage of labor, and frequently causing fetal death. When placental abruption occurs,

hysterectomy often becomes necessary, with the possible emergence of serious maternal complications, including death⁴.

In this study, we provide a case report, on which no previous literature is available, of a utero-placental apoplexy during induction of therapeutic abortion.

Case Report

A 41-year-old healthy Caucasian woman gravida 4 para 3 with no associated pathology or history of obstetrical complications, at the 18-week of pregnancy with fetal karyotype of 47XY+21 diagnosed by prenatal invasive diagnosis (amniocentesis), was admitted in our Department to undergo therapeutic abortion.

The induction of therapeutic abortion was performed by using prostaglandins: GEMEPROST 1 mg every 3 hours, vaginally, 5 doses.

10 hours after the last dose, at the onset of labor, premature rupture of membranes occurs with leaking of amniotic fluid combined with blood.

We observed the following: pain increases, blood losses become severe, combined with clots but no cervical dilation or effacement. Distended, above the transverse umbilical line, but not contracted and painful uterus was noted along with insufficient uterine activity.

The continuous bleeding resulted in acute anemia and initial coagulation insufficiency and made it necessary to perform the first blood transfusion. Since induction of therapeutic abortion failed, we decided to opt for surgical treatment.

After opening the peritoneum, an oversized, dark-purple, swollen, and tender uterus was noted (Figure 2 and Figure 3), which allowed us to confirm the diagnosis of utero-placental apoplexy. We also noticed hemorrhagic infiltration into the paracolic gutters.

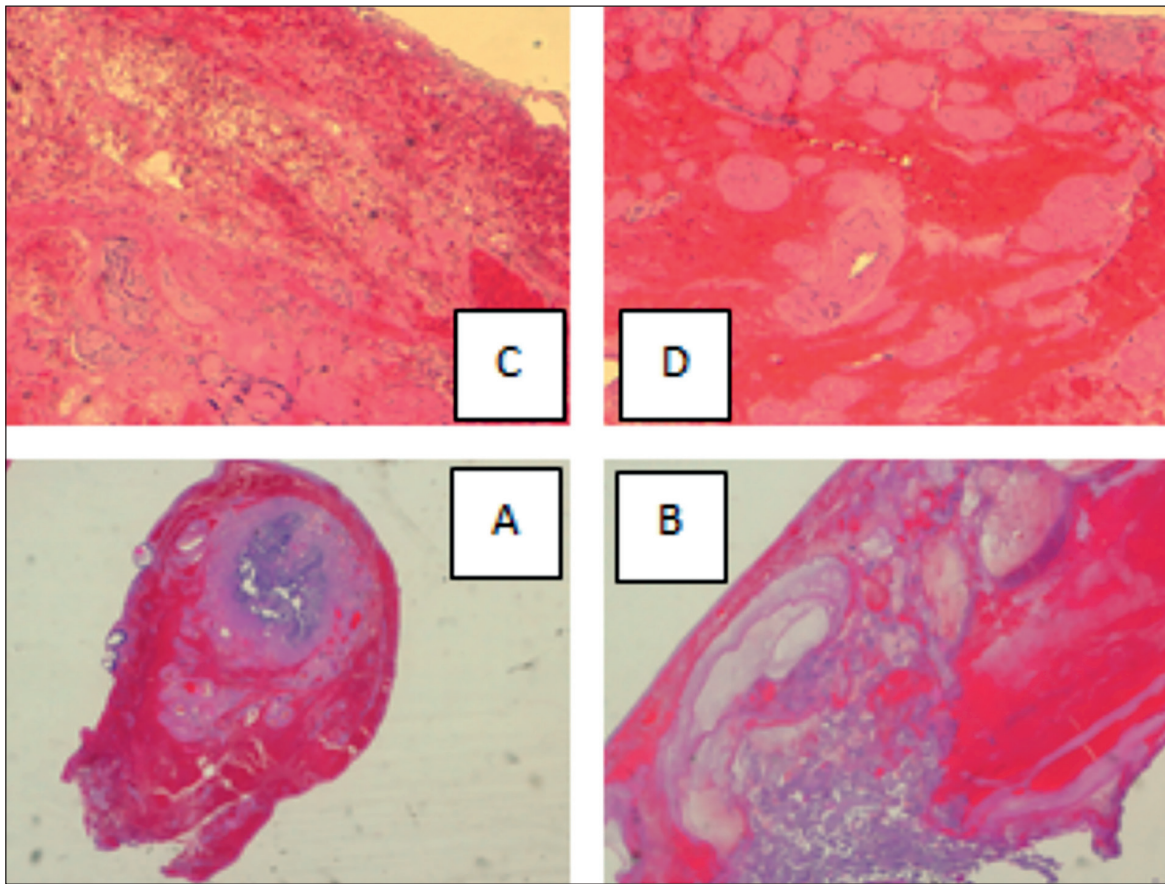


Figure 1. EE 4× hemorrhagic infiltration of of the cervix (A), of the uterin wall (B), of fallopian tube (C) and placenta accreta (D).

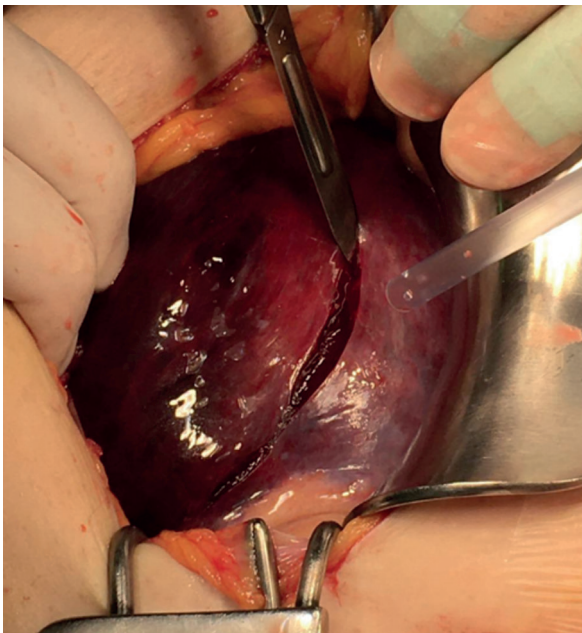


Figure 2. Couvelaire uterus: hemorrhagic infiltration into the uterine musculature.terectomy.

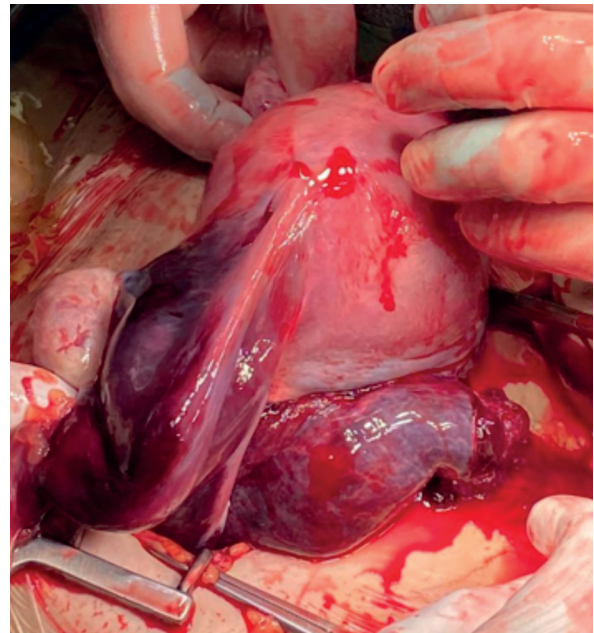


Figure 3. Macroscopic aspect of Couvelaire uterus: and massive hemorrhagic infiltration.

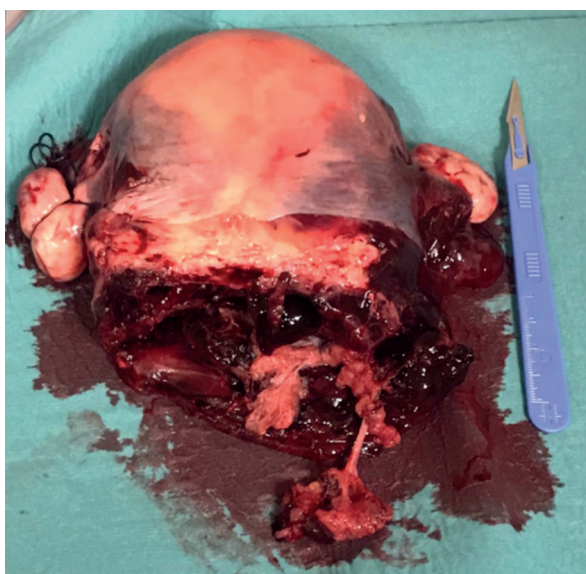


Figure 4. Macroscopic aspect of Uterus after subtotal hys.

After extraction of the dead fetus, a subtotal hysterectomy with bilateral salpingo-oophorectomy was performed (Figure 4) due to massive hemorrhagic uterine infiltration and no response to uterotonic agents.

Discussion

Utero-placental apoplexy is a severe pregnancy complication occurring during the third trimester in the 0.3% of pregnancies.

Our case report provides an example of an early, and therefore difficult to diagnose, utero-placental apoplexy.

Direct clinical observation was our guide through the diagnosis, since all the characteristic signs of this complication were present: increasing vaginal bleeding, acute anemia, distended but not contracted uterus with no cervical effacement or dilation, continuous and severe pain⁴.

In our experience the patient, because of the extreme premature gestational age and the therapeutic abortion procedure, did not undertake cardiotocography (CTG): CTG is typically performed during labor in the third trimester of pregnancy (which is when this complication mostly occurs) in order to assess fetal wellbeing as well

as uterine contractions. CTG is, along with the clinical signs described above, of significant help to diagnose placental abruption.

We opted for a cesarean section, not an easy and common choice given the clinical condition of the patient, a choice which however turned out to be the right one as we first saw the uterus. It was impossible to perform D&C (Dilation and Curettage), because of both the gestational age and the uterine conditions. D&C would have likely led to an aggravation.

Conclusions

Although uterus placental apoplexy is a typical event of the third trimester of pregnancy, in particular stressful situations, such as the induction of an abortive birth or the therapeutic interruption of pregnancy, it is always crucial to evaluate all the alert clinical signs inherent to the uterine status as this rare complication, albeit rare during the early gestational ages, is statistically present and if not promptly recognized it can lead to disastrous results.

Conflict of Interest

The authors certify that they have NO Conflicts of Interest (COI), NO affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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