Adenomyosis and Uterus Rupture during Labor

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A spontaneous uterus rupture occurred during the labour of a 37-week-pregnant woman showing a pre-cocious rupture of membranes. It appeared enlarged and the cut surface of the myometrium showed coarse trabeculations. The histological examination showed a hypertrophic gravid myometrium with heterogeneous areas of fibrosis and adenomyosis, necrotic decidual foci and hyperplastic cervical glands. Our experience suggests that a silent and spontaneous uterine rupture, is possible even in the absence of the principal risk factors.

Case Report

We report a clinical case occurred in 1999 at the University Department of Obstetrics and Gynaecology, S. Bambino Hospital, Catania. It concerned a spontaneous and silent uterus rupture occurred during the labour of a 30-years-old woman who had carried out 3 pregnancies with 2 successful childbirths. She had undergone an operative delivery with the application of an obstetric cup to a female baby weighed 2900 g, and a voluntary pregnancy interruption, complicated by

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methrorragia and uterine perforation due to ovular material retention. She came to our observation when she was 37 weeks pregnant, showing a preconvulsus, spontaneous rupture of membranes with clear amniotic liquid. After a few hours labor started spontaneously and within 6 hours it led to complete di-lata-tion with the fetus’s head stopped at the superior segment of the cervical canal. Then contractions stopped and it was necessary to use an obstetric cup. The baby was a healthy male weighed 2750 g (Apgar 8/10). A pelvic region control and ephisoraphy were then executed.

A short time later the patient’s general condition worsened, even if no external hemorrhages were detected. So we decided to operate her in emergency, suspecting an internal bleeding.

Once we opened the peritoneum we found a massive bleeding from a breach in the isthmic uterine wall, with hemorrhagic stuffing of parametria.

A total hysterectomy was quickly executed, improving the patient’s condition, with her complete clinical recovery within a couple of days.

At the macroscopic exam the uterus appeared grossly enlarged and the cut surface of the myometrium showed coarse trabeculations. The histological examination showed a hypertrophic gravidic myometrium with heterogeneous areas of fibrosis and adenomyosis, necrotic decidual foci and hyperplastic cervical canal glands (Fig. 1). The portio showed a keratosic and thickened flat epithium.

**Discussion**

Adenomyosis is a frequent disorder among women of child-bearing age, affecting chiefly the ones aging 30-50 years. It is the proliferation of the non-cycling layer of endometrium in an uterus. The proliferation occurs within the wall of the uterus and can be focal or diffuse. It may also affect a gravid uterus and usually occurs in the last weeks of pregnancy, even if more preconvulsive cases have been also reported (2). Complications in pregnancy are not common, as it is underlined by a review of literature from 1904 to 1994, which reports only 31 cases of obstetric complications, related to adenomyosis (3).

A diagnosis, usually effected by MR imaging and by transvaginal sonography (4), is very difficult during pregnancy, and it is usually made after obstetric complications.

The particularity of this clinical case does not consist of the silent spontaneous uterus rupture during labor, but of the cause of the following obstetric complications, it was important the etiopathogenetic role played by adenomyosis and fibrosis.

In fact, if on one way they improve uterine consistency, on the other side they decrease its elasticity and resistance. So, during the fetus’s passage, uterine contractions may lead to an incomplete laceration that subsequently may change into a complete rupture with a massive internal hemorrhage. During the labor expulsive phase the inferior segment is immobilized by the fetus’s head while, at the same time, it is pulled up by the contraction of the longitudinal uterine muscles, and down by the circular muscles of the dilating cervical canal.

It is probable that the perforation occurred during the voluntary interruption of the previous pregnancy was favored by the presence of an adenomyosis focus (locus minoris resistentiae) yet present during this procedure. We cannot exclude such an eventuality, since the outcome of this perforation, so minor that it did not require any intervention, recovering spontaneously.

**Fig. 1.** Emathossiline-Eosine stained preparation of adenomyosis in gravidic uterus. (400× magnification).
ously, was not observable after several years in a gravidic uterus at term. Besides the only objective data was the adenomyosis in the point of the spontaneous uterus rupture.

In conclusion we think that this clinical case is emblematic and should be considered that even in the absence of the principal risk factors, such as oxytocine administration, preceding hysterotomiae, fetus’s macrosomy, cephalopelvic disproportion and obstetric malpractice, a silent and spontaneous uterine rupture may occur, causing heavy disablement to the patient.

References