Uterine Rupture — Symptoms and Treatment

A uterine rupture represents an important complication during pregnancy, as well as during delivery. A uterine rupture can become a life-threatening emergency which requires an immediate Caesarean section. The patient complains about severe, devastating pain. The uterus feels rigid when palpated, and signs of hypovolemic shock are visible. This article presents you with a compact overview of this complication.

Definition of Uterine Rupture

Rupture of the uterine wall

The uterine rupture refers to a rupture of the uterine wall. This rupture can be complete, as well as incomplete. In case of an incomplete uterine rupture, the serosa remains intact.
**Epidemiology of Uterine Rupture**

Even nowadays, uterine ruptures are very frequent. This severe complication occurs in 1 of 1,500 deliveries.

**Etiology of Uterine Rupture**

**Relative imbalance in uterine rupture**

Uterine ruptures are caused by an imbalance between the strain on the uterine wall and the stability of the uterus. The most common cause of rupture during delivery is normally a *relative imbalance* in case of too narrow maternal pelvis, cervical dystocia or impossible delivery position of the unborn. Ruptures that are independent of delivery usually result after previous surgeries that injured the uterus (e.g. myoma enucleation, s/p Caesarean section).

![Image: A patch of placenta adhered to the rupture...](image-url)  
*Bild: *A patch of placenta adhered to the rupture...* von Jiang Q, Yang L, Ashley C, Medlin EE, Kushner DM, Zheng Y. Lizenz: [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)

**Symptoms and Diagnosis of Uterine Rupture**

**Symptoms of uterine rupture**

Typical warning signals for a uterine rupture are very frequent labor that may even develop into hyperactive labor. Patients appear anxious and complain about *severe pain* and *tenderness*.

**Clinical diagnosis of a uterine rupture**

The diagnosis of a uterine rupture can usually be done clinically. The acute bleeding can cause hypovolemic shock, which poses a threat to the fetus. Heart sounds and movements of the unborn cannot be detected anymore.

It is possible for a *complete uterine rupture* to manifest after vaginal birth. The *severe hemorrhage* occurs only afterwards since the child prevented it before. This can very rapidly lead to *shock*.
Therapy of Uterine Rupture

In case of impending rupture, a **tocolysis** is initiated. This can be done, for example, with sympathomimetic drugs or intravenous magnesium sulfate. Subsequently, a **Caesarean section** is carried out.

A Caesarean section should be done in the case of suspected or previous ruptures. A **vaginal delivery** would be a **contraindication** in such circumstances.

After delivery via Caesarean section, it has to be decided whether a **suture of the rupture** is possible, or if a **hysterectomy** should be done. In case of hypovolemic shock, fluid replacement, under simultaneous control of blood pressure, is necessary.

Review Questions

The correct answers can be found below the references.

**1. Which of the following statements is most likely a cause of a uterine rupture?**

   A. s/p. myoma enucleation
   B. s/p. mastectomy
   C. s/p. ablation
   D. s/p. cholecystectomy
   E. s/p. appendectomy

**2. Which of the following symptoms is most likely a typical sign before the presence of a uterine rupture?**

   A. Vaginal bleeding in early pregnancy
   B. Vaginal bleeding in late pregnancy
   C. Hyperactive labor
   D. Morning sickness
   E. Hypertension

**3. Which one is no component of uterine rupture therapy?**

   A. Caesarean section
   B. Vaginal delivery
   C. Tocolysis
D. Fluid replacement
E. Hysterectomy

References

Duale Reihe, Stauber & Weyerstahl: Gynäkologie und Geburtshilfe; 2. Auflage
Thieme, Gätje et.al – Kurzlehrbuch Gynäkologie und Geburtshilfe; 2. Auflage

Correct answers: 1A, 2C, 3B

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