

# Predstavitev primera: Je carski rez v drugem trimestru nosečnosti nerazpoznavni dejavnik tveganja za nenamerno podaljšanje histerotomije v spodnji del maternice?

## Case report: Is mid-trimester cesarean section an unrecognized risk factor for accidental extension to the lower uterine segment?

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### Ključne besede:

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### Key words:

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### Izvleček

**Namen:** Ob carskem rezu se pogosto dogaja nenamerno zatrganje kotov maternice, ki je povezano z resnejšo izgubo krvi, večjim tveganjem za potrebo po transfuziji in nenačrtovano histerektomijo. Najpomembnejši dejavnik tveganja je carski rez v drugi porodni dobi.

**Poročilo o primeru:** Opisujemo primer 35-letne nosečnice v drugem trimesečju, pri kateri smo opravili drugi carski rez. Prišlo je do nenamernega zatrganja kotov maternice, kar je vodilo v resno izgubo krvi. Odpuščena je bila četrty pooperativni dan v klinično stabilnem stanju.

### Abstract

**Purpose:** Hysterotomy extension at the time of cesarean section is frequent and associated with severe blood loss, risk of transfusion, and unplanned hysterectomy. Cesarean section during the second stage of labor is the most important risk factor.

**Case report:** We describe a case of a 35-year-old gravida 4 para 1 at 26+1 weeks gestation who underwent a repeat cesarean section. An unintentional hysterotomy extension led to severe blood loss. The patient was discharged on day 4 after the operation in stable condition.

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**Zaključek:** Nenamerno zatrganje kotov maternice je povezano z višjo maternalno obolevnostjo in umrljivostjo. Topa kirurška tehnika vstopa in obratna medenična ekstrakcija sta povezani z manjšim tveganjem za zatrganje kotov maternice.

**Conclusion:** Hysterotomy extension is associated with higher maternal morbidity and mortality. Blunt expansion of the hysterotomy and a reverse breech extraction are associated with a lower uterine tear rate.

**INTRODUCTION**

Caesarean section (CS) is one of the most frequent operative procedures in obstetrics and gynecology, and is considered to be a safe procedure (1).

In some cases, however, incidental injury to the uterus can significantly increase the operative time and be life-threatening. In our case, this type of complication is described as an unintended hysterotomy extension (UHE).

**CASE REPORT**

A 35-year-old gravida 4 para 1 was admitted to the delivery room with a diagnosis of preterm premature rupture of membranes (PPROM) at 26+1 weeks gestation. A CS was required in the previous pregnancy at approximately the same gestational age. Both pregnancies were characterized by cervical insufficiency with a cervical cerclage. In the current pregnancy, gestational hypertension and gestational diabetes were managed with anti-hypertensives and diet. At 24+3 weeks gestation the patient had one episode of vaginal bleeding. Antenatal corticosteroids were recommended for fetal lung maturation, but the patient declined further in-patient care. The bleeding subsided shortly thereafter.

At the time of PPRM, antibiotics were initiated, a vaginal smear was obtained, and laboratory testing was performed. The laboratory testing results were normal

(leukocytosis [as expected in pregnancy]; hemoglobin, 107 g/L; and hematocrit, 0.33), except C-reactive protein, which was minimally elevated at 9 mg/mL. *Escherichia coli* and *Saccharomyces cerevisiae* were isolated from the vaginal swab. The vital signs were normal (blood pressure, 139/79 mmHg; and pulse, 90 beats/min).

Shortly after PPRM, contractions ensued and the cervix began to dilate. Accordingly, atosiban for tocolysis and magnesium sulphate for neonatal neuroprotection were administered. The cerclage was removed.

Cervical dilation continued and a CS was recommended. Immediately after extraction of the fetal head, the surgeon noticed a major laceration of the uterus extending from the right hysterotomy angle towards the lower uterine segment. The laceration was quickly repaired; however, the hemorrhage was profound. The patient was administered methergine (0.2 mg IM), carboprost (250 mcg IM [2 doses]), 2 units of O+ blood along with 2 liters of crystalloids. The estimated blood loss was 2800 mL. At the end of the 2-h procedure, the blood pressure was 98/56 mmHg and the heart rate was approximately 120 beats/min. The hemoglobin concentration was 94 g/L and the hematocrit 0.30. Further laboratory testing did not reveal a coagulopathy or platelet disorder. During the hospital stay, the hemoglobin level decreased to 62 g/L and the hematocrit decreased to 0.22.

## DISCUSSION

A UHE occurred as a complication associated with an emergency CS resulting in an increased operative time, blood loss, and injured uterus. Considering the frequency of CSs, it is interesting that UHE was not reported in detail in the literature until 2006 (2). Even more surprising was that this complication has an incidence of 8% (3). Therefore, it is important to be aware of UHE as a potential complication when making the decision for an emergency cesarean section, especially during the last stage of labor.

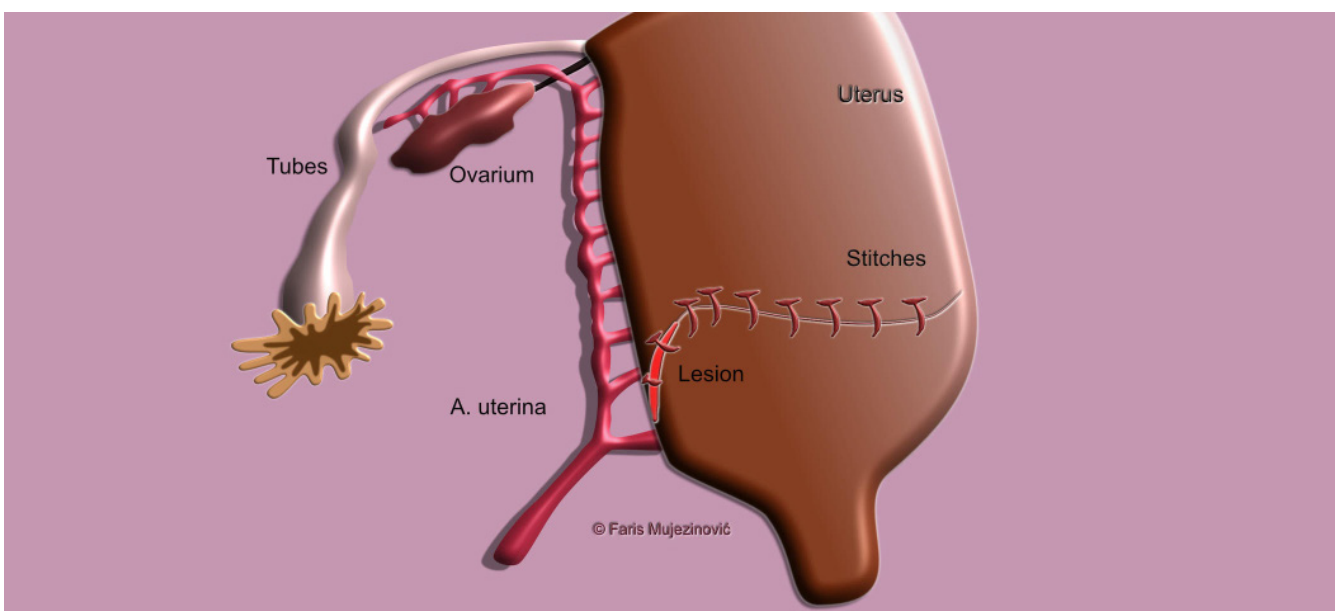
The probability of a UHE increases 10-fold during the second stage of labor. In this stage, the lower uterine segment is very thin, and thus highly susceptible to a tear during the transabdominal disengagement of the fetal head, which is fixed deep in the pelvis. Of note, a UHE can occur in other stages of delivery (2). Our case confirms that a UHE can occur, even during the first stage of labor.

Our procedure lasted for 2 h, which is significantly more time than reported in the literature. The reason for the increased operative time was the brisk bleeding that required immediate attention and doubled the length of the operation. Thus, the additional time was not devoted to managing the laceration, but rather on achieving adequate hemostasis.

In an uneventful CS, the hemoglobin values are < 10% in 34.4% of the patients; however, the decreased hemoglobin level is more pronounced after hemorrhage, often requiring a blood transfusion (3, 4). Bilgard et al. (3) reported that the UHE risk is as high as 5-fold, with a 17-fold increased risk of hematoma formation, injury to the bladder, and need for hysterectomy. A delayed decrease in the hemoglobin concentration after hemorrhage with a normal postoperative recovery confirms the weak correlation between blood loss and hemoglobin markers, and should therefore always be interpreted with caution (5). A blunt surgical technique and reverse breech extraction are options that will lower the risk of UHE (6-10).

## CONCLUSIONS

A UHE is a potential complication of CS, not only in the second stage of labor, but also in the first stage of labor and the second trimester, and is associated with increased patient morbidity.



*Figure 1. A sketch of unintentional uterine repair*

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