

# **Effect of high body mass index, increased weight gain and single- versus double-layer uterine incision closure on success of vaginal birth after cesarean delivery**

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## **SUMMARY**

Cesarean section is one of the most frequently performed abdominal operations nowadays. As techniques such low transverse uterine scar, that increased the safety of cesarean delivery were used more often, new features of fetal monitoring and ultrasound diagnostics were introduced and medico-legal pressures on physicians increased, indication for cesarean birth were liberalized. After declining for many years in the 1990s the cesarean rate peaked at 30,3% in 2005, the highest percentage ever reported in the USA. In the past three decades a lot of efforts have been made both on national and international levels in order to stop this tendency. VBAC is an ideal and safe method in decreasing high cesarean section rates, but unfortunately the popularity of this method has been drastically decreased due to the reason of publications on uterine ruptures.

Excessive weight gain and obesity have an increasing relevance in obstetrics. As the modernized nations' fastest growing epidemic, obesity is having devastating effects on multiple fronts: it exacerbates existing illnesses, increases the risk of developing others, and poses a severe health threat for generations to come. Overweight and obesity have long been known to complicate pregnancy and are associated with increased risk for pregnancy-induced hypertension, preeclampsia and gestational diabetes, as well as anesthesia-related risks, should the woman undergo surgery. Among these women the incidence of cesarean delivery increases while VBAC success decreases.

In my study I emphasized that obese patients and those who gain more than 40 lb during the pregnancy are less likely to have VBAC success. I have demonstrated that an inversely proportional relationship exists between VBAC success rates and prepregnancy BMI. I also found that a history of a previous VBAC makes a patient 7 times more likely to repeat that success in a future attempt. The data clearly shows that women who have had a previous successful VBAC, those who had a previous cesarean delivery for a nonrecurring indication, and those whose fetuses weighed less than 4,000 grams at delivery are more likely to have successful VBAC attempts. I also showed that uterine rupture is much likely to happen in patients whose wound was closed in a single-layer fashion during the previous operation.

Given the known risks associated with attempting VBAC, patient selection to optimize VBAC success and minimize complications becomes of paramount importance. Although obese candidates may succeed, they do so with longer labors, increased complication rates, and a baseline increased risk for cesarean. Obesity is not a contraindication for VBAC, but obese patients need appropriate counseling to understand the risks of attempting a vaginal trial after previous cesarean.

Key words: BMI, VBAC, weight gain

Kulcsszavak: testtömeg index, súlygyarapodás, császármetszés, hüvelyi szülés