



Does labor induction (vs expectant management) increase the risk of failed TOLAC?

Yes. Among 6,033 women with 1 prior cesarean delivery, induction was retrospectively associated with an increased risk of failed trial of labor after cesarean (TOLAC). The researchers also found that this risk for failed TOLAC was present for a secondary study cohort of 500 women at low risk for complications (nonmedically indicated inductions).

Lappen JR, Hackney DN, Bailit JL. Outcomes of term induction in trial of labor after cesarean delivery: analysis of a modern obstetric cohort. Obstet Gynecol. 2015;126(1):115-123.

►EXPERT COMMENTARY

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Past research into outcomes for induction of labor for women attempting trial of labor after cesarean (TOLAC) has compared labor induction with spontaneous labor. This comparison may be biased against induction, say Lappen and colleagues, who conducted this recent study with the goal of characterizing the likelihood of failed TOLAC with induction and assessing maternal and neonatal outcomes of induction, compared with expectant management, by week of gestation (between 37 and 40 completed weeks).

Details of the study

The researchers analyzed data from the Consortium on Safe Labor,¹ excluding women who had:

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- no or more than 1 prior cesarean delivery
- multiple gestations
- fetal anomalies
- preterm delivery

WHAT THIS EVIDENCE MEANS FOR PRACTICE

The authors identified a significant increase in risk of failed TOLAC with induction of labor. These findings are consistent with prior work describing the favorable relationship between TOLAC success and spontaneous labor and thus should not alter current obstetric practice. The study authors used a large, reliable database for the analysis and controlled for maternal age, body mass index, and history of any prior vaginal birth. However, as the authors point out, the study was limited by a lack of data on obstetric factors that have been identified in prior studies to be pertinent to the likelihood of success of TOLAC, such as Bishop score, indication for prior cesarean delivery, and history of any successful vaginal birth after cesarean. Clinicians should consider each patient's predictors for successful TOLAC individually and provide appropriate counseling. An induction of labor remains appropriate in well-selected patients attempting TOLAC.

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- unknown labor type
- repeat cesarean delivery without a trial of labor (including those for whom TOLAC was contraindicated).

Their final, primary cohort included 6,033 women undergoing TOLAC (1,626 underwent induction of labor; 4,407 did not). For this group, induction of labor was defined to include all medically indicated and elective inductions.

They also analyzed a secondary cohort, for which they redefined the induction group to only include those inductions that were nonmedically indicated. This was a “low risk” cohort (n = 500) that excluded women with chronic conditions (hypertension, gestational diabetes, etc) that could result in medically indicated induction.

Induction of labor still associated with failed TOLAC

Comparing induction of labor with expectant management, the frequency of failed TOLAC was higher at each week of gestation, but not

at 40 weeks. The adjusted odds ratios were:

- 37 weeks: 1.53 (95% confidence interval [CI], 1.02–2.28)
- 38 weeks: 1.74 (95% CI, 1.29–2.34)
- 39 weeks: 2.16 (95% CI, 1.76–2.67)
- 40 weeks: 1.21 (95% CI, 0.9–1.66).

Induction was associated with an increased risk of composite maternal morbidity at 39 weeks’ gestation. The authors attributed this to a statistically significant increase in the risk of transfusion. Induction was not associated with increased neonatal morbidity.

The authors point out that, since their data set collection, ACOG recommended against nonmedically indicated inductions before 39 weeks’ gestation, but argue that their results remain generalizable and clinically pertinent because medically indicated early-term inductions remain common. 🚫

Reference

1. Zhang J, Landy HJ, Branch DW, et al. Contemporary patterns of spontaneous labor with normal neonatal outcomes. *Obstet Gynecol.* 2010;116(6):1281–1287.

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