



When macrosomia is suspected at term, does induction of labor lower the risk of cesarean delivery?

Yes, according to this retrospective cohort study of more than 132,000 women. Among women who underwent induction of labor at 39 weeks' gestation and who delivered an infant with a birth weight of $4,000 \pm 125$ g, the frequency of cesarean delivery was 35.2%, compared with 40.9% among women who were managed expectantly and who delivered a macrosomic infant at a later gestational age (adjusted odds ratio, 1.25; 95% confidence interval, 1.17–1.33).

Cheng YW, Sparks TN, Laros RK Jr, Nicholson JM, Caughey AB. Impending macrosomia: will induction of labour modify the risk of caesarean delivery? BJOG. 2012;119(4):402–409.

► EXPERT COMMENTARY

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Fetal and neonatal macrosomia can lead to morbidity for both mother and infant. Larger babies put the mother at risk of cesarean delivery, severe perineal lacerations, and hemorrhage. The macrosomic fetus faces an elevated risk of birth trauma, shoulder dystocia, and metabolic disorders.

Earlier investigations have concluded that induction of labor does not improve outcomes and may increase the risk of cesarean delivery.¹ The American Congress of Obstetricians and Gynecologists (ACOG) does not support suspected fetal macrosomia as an indication for induction of labor.²

Details of the study

The objective of this study was to determine whether women who were carrying a macrosomic fetus and who underwent induction of labor had a higher rate of cesarean delivery than those who were managed expectantly. Using data from the 2003 Vital Statistics

Nativity birth certificate registry, Cheng and colleagues compared women who underwent induction of labor at 39 weeks with women who were managed expectantly and who delivered at 40, 41, or 42 weeks (by induced or spontaneous labor).

Investigators attempted to adjust for normal gestational growth by assuming a fetal weight gain of 200 g for each additional week of gestation in the women managed expectantly. For instance, one group included women who delivered at 39 weeks (birth weight of 3,875–4,125 g), and they were compared with the group of women who delivered at 40 weeks (birth weight of 4,075–4,325 g), 41 weeks (4,275–4,525 g), and 42 weeks (4,475–4,725 g).

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WHAT THIS EVIDENCE MEANS FOR PRACTICE

This study explores an important issue—the prevention of cesarean delivery and poor neonatal outcomes associated with macrosomia. The comparisons in this investigation cast earlier conclusions in question and elucidate potential improvements in neonatal outcomes.

However, because of the numerous assumptions underlying the study groups, I would not recommend induction of labor to reduce the rate of cesarean delivery until further prospective data are available.

►► JENNIFER T. AHN, MD



Using this scheme, cesarean delivery was lower in the group of women who underwent induction of labor. The induced groups were also found to have lower odds of composite neonatal morbidity.

Strengths and limitations

Because this was a retrospective study, investigators were able to use known birth weights, rather than estimated birth weights, to overcome misclassifications that can arise with estimates.

Cheng and colleagues refuted the findings of earlier studies that found a higher risk of cesarean delivery with induction of labor. They argued that those investigations compared women who underwent induction of labor with those who experienced

spontaneous labor instead of the proper comparison—between women who underwent induction of labor and those who were managed expectantly. Although the comparisons they used in this study alleviate that problem, the retrospective nature of the study necessitated the use of multiple assumptions to allocate each group, creating selection bias.

Group allocations and medical histories cannot be confirmed, and the investigators acknowledge that their conclusions regarding neonatal morbidity lack statistical power. ❌

References

1. Irion O, Boulvain M. Induction of labour for suspected fetal macrosomia. *Cochrane Database Syst Rev.* 2000;(2): CD000938. doi:10.1002/14651858.CD000938.
2. ACOG Committee on Practice Bulletins. ACOG Practice Bulletin No. 22. Fetal macrosomia. *Obstet Gynecol.* 2000;96(5).