Is expectant management superior to elective induction of labor in nulliparous women who have an unfavorable cervix?

No. The strategies have comparable outcomes, according to this retrospective cohort study. The primary outcome of cesarean delivery was not statistically different between women who underwent induction and those who were expectantly managed (43.1% and 34.3%, respectively) ($P=.16$). There were no other differences in maternal or neonatal outcomes, except for a greater frequency of meconium among women managed expectantly (36.3%), compared with those undergoing induction of labor (7.0%) ($P<.001$). However, those who underwent induction had a longer duration of labor and delivery (median of 16.5 hours, compared with 12.7 hours among women managed expectantly) ($P<.001$).


**EXPERT COMMENTARY**

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Over the past 12 years, several studies have demonstrated a higher rate of cesarean delivery among nulliparous women with an unfavorable cervix who undergo induction of labor. However, these studies typically have compared induction of labor with spontaneous labor rather than with its appropriate counterpart—expectant management. In addition, in some cases, the increased rate of cesarean delivery among women who undergo induction of labor may be related to a comorbidity rather than elective induction.

In this retrospective cohort study, Osmundson and colleagues compared elective induction of labor at 39-0/7 to 40-5/7 weeks’ gestation with expectant management beyond 39 weeks. All women in the study were nulliparous, free of comorbidity, and carrying a singleton gestation; they also had an unfavorable cervix, as demonstrated by a modified Bishop score of less than 5.

(According to ACOG, the goal of induction of labor is to achieve vaginal delivery by stimulating uterine contractions before the onset of spontaneous labor. Induction is elective when it is not associated with obstetric or medical complications.)

Although the rate of early term (37-0/7 to 38-6/7 weeks) induction increased significantly between 1991 and 2006, especially among non-Hispanic white women, there is now strong evidence that early term delivery is associated with significantly higher neonatal, postneonatal, and infant mortality, compared with late term delivery (39 to 41 weeks). Therefore, elective induction should not be performed before 39 weeks’ gestation—and it wasn’t in the study by Osmundson and colleagues.

**Strengths and weaknesses of the study**

This study has a number of strengths:

- the a priori power calculation
- a review of each chart to ensure that no comorbidity was present
availability of the Bishop score for each case
documentation of the duration of labor and the time of delivery (i.e., whether it occurred during daytime hours or at night).

However, some weaknesses are also present:
the retrospective design, with its inherent limitations
lack of explanation as to why only 102 women met inclusion criteria when the study period was 2 years at a tertiary center (a flow diagram of total deliveries and the reasons for exclusion would have been useful)
the fact that all inductions were performed using a Foley catheter balloon and oxytocin, thereby limiting appropriate assessment of resource utilization for other techniques, such as prostaglandin administration
the small sample size, which prevents determination of whether expectant management is linked to uncommon complications such as macrosomia, shoulder dystocia, or meconium-aspiration syndrome.

WHAT THIS EVIDENCE MEANS FOR PRACTICE

Until a randomized, controlled trial provides definitive data on the relative outcomes of induction of labor and expectant management among nulliparous women with an unfavorable cervix, these patients may be informed that induction of labor is not associated with an increased rate of cesarean delivery. However, they also should be apprised that they are likely to spend more time in labor and delivery with induction than if they await spontaneous onset of labor.

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References