Obstetrics & Gynecology 2005;105:698-704

ORIGINAL RESEARCH

Labor Progression and Risk of Cesarean Delivery in Electively Induced Nulliparas

Anjel Vahratian, PhD, MPH*, Jun Zhang, PhD, MD*, James F. Troendle, PhD*, Anthony C. Sciscione, DO† and Matthew K. Hoffman, MD, MPH‡

From the *Division of Epidemiology, Statistics, and Prevention Research, National Institute of Child Health and Human Development, National Institutes of Health, Department of Health and Human Services; † Department of Obstetrics and Gynecology, Drexel University, Philadelphia, Pennsylvania; and ‡Department of Obstetrics and Gynecology, Christiana Care Health System, Wilmington, Delaware.

Address reprint requests to: Address correspondence to: Jun Zhang, PhD, MD, Division of Epidemiology, Statistics, and Prevention Research, National Institute of Child Health and Human Development, National Institutes of Health, Department of Health and Human Services, 6100 Executive Boulevard., Room 7B03, Bethesda, MD 20892; e-mail: zhangj@exchange.nih.gov.

OBJECTIVE: To describe the pattern of labor progression and risk of cesarean delivery in women whose labor was electively induced.

METHODS: We analyzed data on all low-risk, nulliparous women with an elective induction or spontaneous onset of labor between 37 + 0 and 40 + 6 weeks from January 2002 to March 2004 at a single institution. The median duration of labor by each centimeter of cervical dilation and the risk of cesarean delivery were computed for 143 women with preinduction cervical ripening and oxytocin induction, 286 women with oxytocin induction, and 1,771 women with a spontaneous onset of labor. An intracervical Foley catheter was used to ripen the cervix.

RESULTS: Electively induced labor with cervical ripening had substantially slower latent and early active phases. After controlling for potential confounders, women who had an elective induction with cervical ripening had 3.5 times the risk of cesarean delivery during the first stage of labor (95% confidence interval 2.7–4.5), compared with those admitted in spontaneous labor. Elective induction without cervical ripening, on the other hand, was associated with a faster labor progression from 4 to 10 cm (266 compared with 358 minutes, $P < .01$) and did not increase the risk of cesarean delivery, compared with those in spontaneous labor.

CONCLUSION: The pattern of labor progression differs substantially for women with an electively induced labor compared with those with spontaneous onset of labor. Furthermore, elective induction in nulliparous women with an unfavorable cervix has a high rate of labor arrest and a substantially increased risk of cesarean delivery.

LEVEL OF EVIDENCE: II-2

This article has been cited by other articles:

OBSTETRICS & GYNECOLOGY HOME

B. M. Mercer

Induction of Labor in the Nulliparous Gravida With an Unfavorable Cervix

Obstet. Gynecol., April 1, 2005; 105(4): 688 - 689.

[Full Text] [PDF]

HOME | HELP | FEEDBACK | SUBSCRIPTIONS | ARCHIVE | SEARCH | TABLE OF CONTENTS