Higher Induction Rate May Decrease Cesareans

BY DEBRA WOOD
Contributing Writer

ORLANDO, FLA. — Women receiving prostaglandin-assisted induction of labor were less likely to receive a cesarean delivery than were women in spontaneous labor, according to a study presented by James M. Nicholson, M.D., at the annual meeting of the American Academy of Family Physicians.

"Active Management of Risk in Pregnancy at Term basically involves applying preventive technology to the field of obstetrics in terms of improving outcomes," said Dr. Nicholson of the department of family practice at the University of Pennsylvania, Philadelphia.

While in private practice at a small New England hospital, Dr. Nicholson noted that the cesarean rates at the facility fell to around 10%, at a time when the national cesarean delivery rate never dropped below 20%. The number of deliveries at the small hospital remained the same, with a stable cadre of providers. Seven family physicians, five obstetricians, and one certified nurse-midwife practiced at the facility.

"What did change was our induction of labor rates per year. As the induction rates seemed to go up, the C-section rates seemed to go down," said Dr. Nicholson, adding that the physicians also began using prostaglandin E_2 (PGE_2).

Dr. Nicholson conducted a retrospective, 4-year cohort study. From 1993 to 1997, the hospital had 2,199 deliveries. He included women who had at least one prenatal visit, were at 38 weeks' gestation, had no maternal or fetal health reasons mandating a cesarean delivery, and were carrying a single fetus, for a total of 1,871 deliveries.

Dr. Nicholson analyzed provider labor induction and PGE_2 usage rates. Four family physicians and one obstetrician used both induction and PGE_2 at a high rate, equal to or greater than 21%. Dr. Nicholson classified the 791 women cared for by these five physicians as "highly exposed."

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Three family physicians, four obstetricians and one midwife used labor induction and PGE_2 in less than 21% of their deliveries. The group of 1,080 women that they cared for were classified as "somewhat exposed."

Anemia and single status were more common in the highly exposed group. In the less exposed group, there was a greater number of women with short stature, excess weight gain, and epidurals.

In the highly exposed group, more women had an unripe cervix at time of admission, so physicians used more PGE_2 and more often induced labor. The gestational age was significantly lower, 39.1 weeks vs. 40 weeks, in the less-exposed group.

The elective induction rate was 21.2% in the highly exposed group and 8.1% in the less exposed group. The rate for impending cephalopelvic disproportion was 6.2% in the highly exposed and 2.8% in the less exposed cohorts. The rate for impending uteroplacental insufficiency was 3.8% in the highly exposed and 1.8% in the less exposed groups. Gestational age between 41 weeks and 42 weeks was 9% in the highly exposed and 5.9% in the less exposed cohorts.

The cesarean rate was 5.3% in the highly exposed group and 11.8% in the less exposed group. There were also lower rates of fetal intolerance, cephalopelvic disproportion, and malpresentation in the highly exposed cohort.

Second stage labor was shorter in the highly exposed group. The rate of babies requiring neonatal intensive care was 2.3% in the highly exposed group vs. 4.2% in the less exposed group.

"The babies came out healthier," Dr. Nicholson said.

The percentage of nulliparous women requiring a cesarean section was 7.5% in the highly exposed group and 26% in the less exposed group. No multiparous women in the highly exposed group received a cesarean section, but 10.4% of the women in the less exposed group did. In women who had had a prior cesarean delivery, the rate was 7.4% in the highly exposed cohort and 32.7% in the less exposed cohort.

"We were able to show there was an association between higher provider usage of preventive care by induction and a lower cesarean rate," Dr. Nicholson said.

He also completed two retrospective studies using Active Management of Risk in Pregnancy at Term in an urban population and presented those results at the World Conference of Family Doctors, which met at the same time and in the same Orlando convention center. Both of those studies compared the outcomes of 100 women exposed to induction and PGE_1 or PGE_2 to 300 randomly selected controls who received the current obstetric standard of care.

Again, the women in the highly exposed cohorts delivered an average of 1 week earlier than the standard-of-care group. Exposure to Active Management of Risk in Pregnancy at Term was associated with a higher labor induction rate and lower cesarean delivery rate in both urban studies.

It also was associated with lower rates of neonatal intensive care unit admission, major perineal trauma, and passage of thick meconium. ■

Prior C-Section, No Trial of Labor, Linked to Worse Outcome

BY TIMOTHY F. KIRN
Sacramento Bureau

RENO, NEV. — A prior cesarean delivery can have an adverse effect on maternal and neonatal postpartum outcomes in subsequent births, according to a retrospective study of 10,600 live births.

In the study, women who had undergone a prior cesarean and then did not have a trial of labor in their subsequent delivery were more likely to be admitted to an intensive care unit (odds ratio 4.5), require a blood transfusion (odds ratio 3.1), and be readmitted to the hospital within 30 days (odds ratio 1.7), compared with women who previously had a vaginal birth.

Women with a prior cesarean who had a trial of labor did not have these increased risks. They were, however, more likely to receive aminoglycosides for a postpartum infection (odds ratio 1.8), primary investigator Anna McKeown, M.D., said at the annual meeting of the Society for Maternal-Fetal Medicine.

Term neonates born to mothers with a prior cesarean were more likely to have prolonged hospitalization, defined as a stay of more than 7 days. That held true for the neonates born with a trial of labor (odds ratio 2.51) and those born with no trial of labor (odds ratio 6.7).

The study was intended to be a preliminary look at what the consequences of elective cesarean might be, said Dr. McKeown of the University of California, Irvine Medical Center, Orange.

Lacking from the study were details about the prior cesareans that might have influenced what was seen in the subsequent deliveries, such as why the individuals had undergone their cesareans and how many prior cesareans they had had.

But the study still provides important information because previous investigations of the impact of a prior cesarean on subsequent delivery have been studies of vaginal birth after cesarean and therefore have looked only at outcomes in women who have a repeat cesarean, compared with women who have a trial of labor, she said.

"This [current study] confirms the low-risk nature of delivery of the multiparous woman with only prior vaginal deliveries," Dr. McKeown said. "These risks and benefits should be considered when counseling the patient requesting an elective primary cesarean who desires future childbearing,"

The study's 10,600 subjects included 8,000 who had given vaginal birth and 2,600 who had prior cesareans. All were delivered at one of four Southern California hospitals over a period of a year and a half.

The study found no impact of previous cesarean on increased risk of mortality within 28 days, or prevalence of neonatal seizure or encephalopathy.

While the study had no data on how many previous cesareans the women had, Dr. McKeown said the investigators sense was that the percentage of the subjects with multiple previous cesareans was fairly low. The mean number of previous births for the subjects was only 1.8. ■

Sharp Rise Seen in First-Time Elective Cesareans Deliveries

The number of women having primary cesarean sections without any apparent medical risk grew significantly during the 1990s and topped 80,000 in 2001, according to a new analysis of U.S. birth certificate data.

First-time C-sections in women with "no indicated risk" rose 67% between 1991 and 2001, from approximately 3.3% to 5.5%. The increase was gradual until 1996 and rapid toward the end of the study period. Increases were seen across all ages and parities.

Eugene Declercq, Ph.D., and his associates studied birth certificate data on approximately 4 million births per year between 1991 and 2001.

They looked specifically at women who had singleton, full-term, vertex-presentation births, without any medical risk factors or complications of labor or delivery listed on the birth certificate. They then focused on women who had a first-time cesarean.

The investigators declined to call these deliveries "elective" and instead used the term "no indicated risk" cesareans.

"Birth certificate data provide no record of the mother's intent," said Dr. Declercq, professor in the maternal and child health department at Boston University, and his associates (BMJ [Epub ahead of print] Nov. 19, 2004. Article DOI number: 10.1136/bmj.38279.705336. Available from www.bmj.com).

Age was a major factor in the rate of no-indicated-risk cesareans, they said. First-time mothers over 40 were five times more likely to have the procedure than were primiparous mothers aged 20-24.

Of multiparous women over 34 years of age who had previous vaginal births, more than 5% had a no-indicated-risk cesarean in 2001.

No-risk, primary cesareans were performed in a similar proportion—almost 5%– of women under 30 (all parities) in 2001; this represented growth of almost 60% since 1991, the investigators reported.

All told, there were 80,028 no-indicated-risk primary C-sections performed in 2001—an increase of more then 25,000 since 1996. This represented approximately 26% of the total increase in primary cesareans between 1996 and 2001.

—Christine Kilgore