Studies of Vaginal, Cesarean Deliveries Are a Wash

Trials often reach opposing results and have failed to compare elective C-section vs. planned vaginal birth.

BY JEFF EVANS
Senior Writer

PRAGUE — Neither elective cesarean section nor planned vaginal birth has yet been convincingly shown to provide the lower rate of perinatal and maternal complications in studies.

Most trials have not been randomized, have often reached opposing results, and have not compared elective C-section against planned vaginal birth, stymying clinicians’ ability to conclude which may offer the least amount of risk to the newborn and mother. Dr. Ola Diduk Saugstad said at the 20th European Congress of Perinatal Medicine.

Retrospective comparisons of elective repeat C-sections and trial of labor (prior to a repeat C-section) in term infants have alternately suggested that elective repeat C-section may increase an infant’s risk of respiratory problems, hyperbilirubinemia, and a longer length of stay in the hospital (Pediatrics 1997;100:348-53), yet also confer a reduced risk of sepsis and an Appgar score of less than 6 at 1 minute.

Another study found no difference between the two delivery strategies in overall perinatal or maternal morbidity or mortality (N. Engl. J. Med. 1996;335:889-93), said Dr. Saugstad of the department of pediatric research at the RKihospitalet University Hospital, Oslo.

Dr. Saugstad and his colleagues have conducted a prospective study comparing 17,828 planned vaginal deliveries and 825 elective C-sections that occurred during January through June 1999 in Norway. There was no difference between the two groups in neonatal mortality or the percentage of infants with an Apgar score of less than 7 at 1 minute or less than 4 at 5 minutes. But significantly more infants who were delivered with a planned C-section were transferred to the neonatal ICU (18%) than were babies born with a planned vaginal delivery (9%). Babies delivered by a planned C-section also had significantly higher rates of pulmonary disorders, hydrops, and anemia. Vaginally born infants were delivered at an older mean gestational age than C-section infants (39.4 weeks vs. 38.4 weeks) in the study, which is in press for the American Journal of Obstetrics and Gynecology.

In studies involving small or extremely low-birth-weight infants, comparisons of elective versus selective C-section, C-section with labor versus C-section without labor, and vaginal delivery versus C-section have generally shown no significant differences in perinatal or maternal outcomes. But these studies have mostly been retrospective and have often compared infants of dissimilar gestational age and birth weight, Dr. Saugstad said.

A Cochrane review of six studies involving 122 women found no significant differences between elective and selective C-section on outcomes.

The odds ratio for late childhood neonatal mortality (5%) at up to 6 weeks of follow-up than those delivered by C-section (1.6%) (Lancet 2000;356:1375-83). But there was no difference in either maternal (Am. J. Obstet. Gynecol. 2004;191:917-27) or neonatal outcomes (Am. J. Obstet. Gynecol. 2004;191:864-71) after 2 years of follow-up, Dr. Saugstad said.

Results from the multicenter, randomized Term Breech Trial showed that vaginally born infants had higher rates of grade 3 or 4 intraventricular hemorrhage, periventricular leukomalacia, and neurodevelopmental impairment at 18-22 months of age. But newborns who were delivered by C-section without a planned C-section had increased the time to pain relief in a randomized study.

In the study of 136 patients who were randomized to receive a combined spinal epidural (CSE) regimen or a routine epidural regimen, the CSE group achieved full analgesia satisfaction in a mean of 8 minutes, compared with 16 minutes in the epidural group.

Moreover, the addition of spinal analgesia did not affect the quality of the block, side effects, or patient satisfaction with analgesia, Dr. Shaul Cohen reported in a poster at the annual meeting of the Society for Obstetric Anesthesia and Perinatology.

Patients in the CSE group received infusion of 2mg of intrathecal ropivacaine and 5 mcg sufentanil via a PENCAN 25G spinal needle followed by epidural patient-controlled analgesia (PCA). The epidural group received 20 mL of 0.04% ropivacaine plus 1 mcg/mL sufentanil, plus 2 mcg/mL epidural epidural study solution followed by epidural PCA analgesia.

The patients received an infusion of the study solution at 4 mL/hr, and a PCA dose of 4 mL with a lockout time of 10 minutes, noted Dr. Cohen of the University of Medicine and Dentistry of New Jersey—Robert Wood Johnson Medical School, New Brunswick, N.J.

After the initial neuraxial dose administration, patients were asked to rate their pain satisfaction at each contraction. In those with a visual analog score of greater than three at 20 minutes, a 5 to 10 mL bolus of study solution was given every 10 minutes (up to 20 mL) as needed to achieve a score of three or less.

A rescue dose of 5 mL of 0.25% ropivacaine was provided every 10 minutes (up to 20 mL and until patients could no longer ambulate) to those whose score remained above three after the maximum amount of study solution had been provided; the infusion rate was increased by 2 mL/hr at each interval where an intervention was required (to a maximum of 16 mL/hr).

The CSE and epidural groups were similar in regard to weight, height, and parity. Initial pain scores were significantly higher in the CSE group (7.8 vs. 6.9), and mean PCA volume was higher in that group (22 mL vs. 13 mL), but the groups did not differ in regard to first- and second-stage duration, initial cervical dilation, total infusion time, pain scores at time of relief, intravenous Pitocin use, pruritus, sedation, nausea, vomiting, urinary retention, analgesia and during the first and second stages of labor, number of patients able to ambulate, or APGAR scores, Dr. Balki noted.

Preterm Birth Diminishes Child’s Survival, Reproductive Capacity

BY SHARON WORCESTER
Southeast Bureau

MIAMI BEACH — Individuals born preterm have diminished short- and long-term survival, as well as diminished reproductive capacity, and women born preterm are at increased risk of giving birth to their own offspring preterm, an analysis of data from a large birth registry suggests.

Data from about 610,000 men and 578,000 women entered into the Medical Birth Registry of Norway between 1967 and 1988 were analyzed and showed an overall rate of preterm birth of 5.7%, with 5.3% among females and 6.2% among males.

Those born preterm, compared with those born between 37 and 42 weeks’ gestation, had “considerably higher” perinatal and infant mortality, and the increased mortality risk persisted through adolescence, Dr. Geeta K. Swamy reported at the annual meeting of the Society for Maternal-Fetal Medicine.

The odds ratios for early childhood death in those born extremely preterm were 6.1 for males (no females died in late childhood in this group), and for those born very preterm they were 1.9 for males, and 0.9 for females, said Dr. Swamy of Duke University, Durham, N.C.

Replication was significantly diminished in both men and women born extremely preterm, who survived until at least age 18 years (odds ratio 0.48 for men and 0.52 for women) and those born very preterm who survived to at least age 18 years (odds ratio 0.75 for men and 0.81 for women).

The risk for having offspring born preterm was increased only among women who were born preterm.

Approximately 17% of those born extremely preterm gave birth prematurely, compared with 7% of those born at term.

The findings emphasized the increased need for health care and social services well beyond the neonatal and infant life periods,” Dr. Swamy said, adding that further study will analyze gender-specific age of mortality to better determine how preterm birth affects long-term health.

A reevaluation to determine how conceptions associated with extremely preterm birth affect overall reproductive capacity is also warranted, Dr. Swamy concluded.

Combined Spinal-Epideral Faster Than Continuous Epidural in PCA

BY SHARON WORCESTER
Southeast Bureau

HOLLYWOOD, Fla. — The addition of spinal analgesia to a routine walking epidural patient-controlled analgesia regimen shortened the time to pain relief in a randomized study.

In the study of 136 patients who were randomized to receive a combined spinal epidural (CSE) regimen or a routine epidural regimen, the CSE group achieved full analgesia satisfaction in a mean of 8 minutes, compared with 16 minutes in the epidural group.

Moreover, the addition of spinal analgesia did not affect the quality of the block, side effects, or patient satisfaction with analgesia, Dr. Shaul Cohen reported in a poster at the annual meeting of the Society for Obstetric Anesthesia and Perinatology.

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