

# 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, stymieing clinicians' ability to conclude which may offer the least amount of risk to the newborn and mother, Dr. Ola Didrik 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 Apgar 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;335:689-95), said Dr. Saugstad of the department of pediatric research at the Rikshospitalet 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, hypoglycemia, 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 in-

fants 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 perinatal

and maternal outcomes, citing that there was not enough evidence to evaluate the policy of elective C-section for small babies (Cochrane Database Syst. Rev. 2001; 2:CD000078).

In a retrospective cohort study, C-section with labor was associated with significantly 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 labor had a significantly older gestational age than those who were delivered by C-section with labor. Correction for this and other risk factors made the difference in complications non-significant (Am. J. Obstet. Gynecol. 2003;189:501-6).

In a smaller retrospective study of extremely-low-birth-weight infants with a gestational age of less than 26 weeks at birth, significantly more neonates born vaginally survived than (21 of 27) than did those born by C-section (9 of 21).

Vaginally born infants tended to have lower rates of mechanical intervention, surfactant treatment, grade 3 or 4 intraventricular hemorrhage, necrotizing enterocolitis, or sepsis. But infants who were delivered by C-section had significantly lower birth weight, umbilical artery pH, and rectal temperature than vaginally delivered babies (Am. J. Perinatol. 2003;20:181-8).

Results from the multicenter, randomized Term Breech Trial showed that vaginally born infants had significantly greater 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. ■

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

## 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 (from 22 to 27 weeks' gestation) were 6.1 for males and 8.7 for females, and for those born very preterm (28-32 weeks' gestation), the odds ratios were 2.5 for males and 2.1 for females.

The odds ratio for late childhood

death in those born extremely preterm was 6.3 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.

Reproduction 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 in 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 emphasize 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 causes of mortality to better determine how preterm birth affects long-term health.

A reevaluation to determine how continually improving survival rates among the extremely preterm affect overall reproduction is also warranted, Dr. Swamy concluded. ■

## Combined Spinal-Epidural 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.

Patients in the CSE group received initiation by 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 epinephrine epidural study solution followed by epidural PCA analgesia.

All 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 with 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 satisfaction overall and during the first and second stages of labor, number of patients able to ambulate, or APGAR scores, Dr. Balki noted. ■