

Reports of Scientific Meetings

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Society for Obstetric Anesthesia and Perinatology

The Society for Obstetric Anesthesia and Perinatology (SOAP) held its tenth annual meeting in Memphis, Tennessee, March 30–April 2, 1978. Major areas of discussion included recent developments in obstetric anesthesia, neonatology and high-risk obstetrics. Forty-two "works in progress" were represented. The following selected papers are representative of current perinatal investigations.

Datta, Brown, Corke, Ostheimer, Weiss, and Alper (Boston Hospital for Women and Harvard Medical School) compared local anesthetic agents to produce epidural anesthesia. Thirty healthy parturients received epidural anesthesia with 1 per cent etidocaine (20 ml), 0.75 per cent bupivacaine (17 ml), or 3 per cent chloroprocaine (16 ml) for cesarean section. Those patients receiving bupivacaine had a significantly slower onset of anesthesia and longer recovery room stay. Sensory anesthesia was excellent for all mothers given bupivacaine, nine of the ten who received chloroprocaine, but only two of the ten who received etidocaine. The neonates showed no significant differences in Apgar scores, acid–base status, or performance on neurobehavioral tests.

The importance of emotional support for both the parents of sick neonates and for the professional Neonatal Intensive Care Unit (NICU) staff is increasingly apparent. Scanlon (Georgetown University) reported results of a survey conducted within the section on perinatal medicine of the American Academy of Pediatrics. The major providers of support to parents, in addition to NICU nurses and physicians, appeared to be the social service personnel, with consultative support from trained psychologists and psychiatrists. Training and counseling for the NICU professional staff were largely provided by social service personnel, although more than 40 per cent of the respondents used psychologists and psychiatrists to provide direct staff counseling. The survey elicited a general feeling that emotional care of parents and NICU staff deserves more interest and support.

Wynne, Schwartz, Gibbs, and Hood (University of Florida, Gainesville) studied the effects of pulmonary foodstuff aspiration in dogs. Each animal underwent intratracheal administration of 2 ml/kg of one of four test solutions and received no therapy other than iv fluids. Dogs that were given either saline solution (pH 5.9) or hydrochloric acid (pH 1.8) showed no mortality within 48 hours of aspiration, although animals receiving hydrochloric acid had significantly greater decreases in Pa_o₂ and increases in intrapulmonary shunting. Histologic examination of lungs from animals in the second group showed hemorrhagic pulmonary edema. In contrast, two of six animals receiving a foodstuff mixture (pH 5.9) died within 48 hours. When the pH of the foodstuff mixture was reduced to 1.8, all the experimental animals died within 48 hours. Changes in arterial oxygenation and intrapulmonary shunting were

correspondingly greater. Histologic examination of lungs from these animals showed, in addition to the hemorrhagic edema, distinct peribronchial inflammation consisting of polymorphonuclear leukocytes and macrophages. The authors concluded that foodstuff aspiration, even at near-neutral pH, can induce severe respiratory insufficiency, and that the effects of foodstuff and acid may be additive.

Shnider, Wright, Levinson, *et al.* (University of California, San Francisco) examined changes in plasma norepinephrine and uterine blood flow during endotracheal intubation and induction of general anesthesia in the pregnant ewe. They found that laryngoscopy and intubation of the trachea after anesthetic induction with thiopental (4 mg/kg) and succinylcholine (.25 mg/kg) resulted in an 89 per cent increase in plasma norepinephrine, with concomitant increases in systemic blood pressure and uterine vascular resistance and decreases in uterine blood flow. The changes were transient and quickly diminished when airway manipulation ceased. Noxious electrical stimulation applied during 50 per cent N₂O:O₂ anesthesia was associated with an increase in maternal blood pressure, a decrease in uterine blood flow, and an increase in plasma norepinephrine. By contrast, the same stimulation applied during 50 per cent N₂O:O₂ anesthesia supplemented by either 0.5 per cent halothane or 1 per cent enflurane produced no change in plasma norepinephrine or blood pressure. Uterine blood flow did not change with enflurane, but increased slightly with halothane.

Rolbin, Wright, Shnider, *et al.* (University of California, San Francisco, and University of Southern California, Los Angeles) found enflurane in oxygen to be an effective analgesic for delivery in patients receiving variable concentrations of enflurane (.25 to 1.25 per cent). The anesthetic concentration was adjusted so that the patient remained awake, conversant, and cooperative. Effective analgesia at the time of delivery was evaluated by the patient, the obstetrician, and the anesthesiologist. Nitrous oxide and enflurane received similar ratings from patients and anesthesiologists, although the obstetricians showed a preference for enflurane. There were similar incidences of amnesia, willingness to repeat the experience, Apgar scores, cord blood gases, and estimated blood losses in the two groups. The authors conclude that enflurane, in analgesic concentrations for delivery, does not increase uterine bleeding, depress the neonate, or significantly elevate serum inorganic fluoride concentrations.

Results of a two-year follow-up study of pre-term infants small for gestational age (SGA) were presented by Vohr, Oh, Rosenfield, and Corwett (Brown University, Providence, Rhode Island). These investigators matched 21 SGA infants whose birth weights were less than 1,500 g with infants having similar birth weights but approximately lesser gestational ages (AGA infants). Weight, length, and head circumference of the SGA infants measured during the two-year period were similar to those of the AGA group, as were

the results of quarterly neurologic examinations. The quarterly Bayley scores of the SGA infants were lower during the first year, but by 18 to 24 months the two groups had similar motor and cognitive developmental quotients.

Bond (Indiana University School of Medicine, Indianapolis) measured arterial lactate levels in mothers at the time of delivery. While levels were elevated from predicted resting values in all patients, those patients objectively judged to have inadequate analgesia had higher lactate levels than those patients deemed to have adequate analgesia. No attempt was made to relate lactate levels to various anesthetic techniques.

An examination of the pharmacokinetics of meperidine used for labor analgesia was reported by Kuhnert, Kuhnert, and Rosen (Case Western Reserve University, Cleveland). They measured meperidine and normeperidine levels in mother, fetus, and neonate following administration of meperidine during labor. Using gas chromatographic and mass spectrometric techniques, they found that 50 mg of meperidine given intravenously during labor resulted in measurable meperidine and normeperidine in the fetus. Babies delivered two to three hours after maternal medication showed the greatest meperidine excretion during the immediate neonatal period. The authors suggest that these results may help explain the more frequent respiratory depression and poor psycho-physiological test performances of neonates subjected to long drug injection-delivery intervals.

Koht, Bart, Ricciarelli, Wagner, and Depp (Northwestern University Medical School, Chicago) described their experience with continuously infused lumbar epidural anes-

thesia during labor. Patients received 10 ml of 0.05 per cent chloroprocaine to establish epidural anesthesia, followed by a continuous infusion of 30 ml of 0.5 per cent chloroprocaine per hour by Holter pump. Preliminary results suggest a decreased incidence of hypotension, less effect on uterine contractility, less motor block, and more satisfactory pain relief with continuous infusion compared with the usual intermittent epidural injections.

John, Ermocilla, Cash, McDevitt, Hale, and Cassady (University of Alabama, Birmingham) studied the effects of inspired gas temperatures during IPPV in rabbits. Anesthetized rabbits received no artificial ventilation, ventilation with air at 35–37 C, or ventilation with air at 22–23 C. Control animals showed few deleterious effects. Animals receiving IPPV, however, showed frequent pulmonary parenchymal damage. The data further suggest that the damage is more severe and frequently is accompanied by hypoxemia, hypotension, acidemia, and death when ventilation is accomplished with cold rather than with heated air.

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