

analgesia but as yet no report has been made on the relation of this drug to asphyxia of newborns. If respiratory depression from analgesic drugs exists, then asphyxia will result as placental circulation decreases.

Asphyxia results in brain damage and atelectasis. Intratracheal intubation should be done on severely asphyxiated babies. Tubing, manual artificial respiration, mouth to mouth insufflation and many other treatments of asphyxia produce varying and generally discouraging results. Administration of oxygen and carbon dioxide through an intratracheal tube at 10 to 12 mm. of water pressure and the intravenous administration of 1/20 to 3/20 gr. lobeline hydrochloride are advised for resuscitation of severely asphyxiated babies. A simple inhalator should be available for infants with mild asphyxia. 22 references.

F. A. M.

ANDERSON, A. F.: *Spinal Analgesia for Forceps Delivery in Abnormal Labour*. J. Obst. & Gynaec. Brit. Emp. 53: 347-361 (Aug.) 1946.

Anesthesia for forceps delivery has received far too little attention. General inhalational anesthesia may be responsible for many avoidable fatalities and near fatalities following prolonged labor. A trial of spinal analgesia was undertaken in an attempt to avoid the disastrous results which have been observed after inhalational anesthetics. In 35 cases, most of which were prolonged labors with inertia, spinal analgesia was used. All injections were made through the 4th lumbar interspace with the patient in the sitting position. Spinal fluid was used to dissolve procaine crystals. The dose given was on the estimated difficulty of delivery. The patient remained in the sitting position for five minutes after injection of the procaine. The benefit

to the child was especially noticeable in prolonged labors. The danger to the baby from morphine narcosis with superimposed general anesthesia is avoided. As well as being a safe procedure spinal analgesia is important in preventing secondary shock and in minimizing hemorrhage and morbidity. 24 references.

F. A. M.

GILLET, R. E.: *Continuous Spinal Anesthesia in Obstetrics*. Northwest Med. 45: 743-747 (Oct.) 1946.

Spinal anesthesia was used for obstetrics as early as 1900 but the results were largely unsatisfactory. More recent reports show that with improved technics and less toxic anesthetic agents the results are better.

Using a continuous spinal technic, essentially the same as that described by Lemmon, a series of 500 cases was done. Of these 479 were normal and 21 were complicated deliveries. Ninety-five per cent of the anesthetics were satisfactory. In ten cases the results were partially satisfactory, supplementary inhalation anesthesia being necessary for delivery. Three per cent of the cases were completely unsatisfactory due to toxic reactions (7 cases), inadequate anesthesia (5 cases) and inability to perform lumbar puncture (2 cases). One maternal death was in no way due to the type of anesthesia. Fetal mortality, 2.1 per cent, was not related to the anesthesia.

Metocaine and pontocaine were the only drugs used. The needle was withdrawn, after injection of a small dose of the anesthetic solution, just before turning the patient into the delivery position. In 62 per cent of the patients the level of anesthesia was below the umbilicus and uterine contractions continued unabated. In the other 38 per cent the level of anesthesia was above the umbilicus and labor was slowed.

Pitocin was used when the progress of labor was slowed by the anesthesia. The pitocin was given in carefully graded doses. Nausea, vomiting, dizziness or headache occurred in 26 per cent of the cases. Adequate sedation, oxygen inhalation and dextrose solutions intravenously helped control these mild toxic reactions.

Mild headache followed delivery in 15 per cent of the patients. No infections or "back trouble" resulted. One patient developed a pain over the sacrum on the second day postpartum. A hyperemic area surrounded by a zone of hyperesthesia accounted for the discomfort. The pain and the lesion gradually disappeared. In three instances fetal tachycardia developed. The anesthesia was not discontinued and no deleterious results were encountered. 20 references.

F. A. M.

PARMLEY, R. T., AND ADRIANI, JOHN: *Saddle Block Anesthesia with Nupercaine in Obstetrics*. *Am. J. Obst. & Gynec.* 52: 636-640 (Oct.) 1946.

Saddle block is a term applied to low spinal anesthesia confined to the perineal area. Nupercaine has been used with a high degree of satisfaction by many workers. Roman and Adriani simplified the technic for using nupercaine for general surgery by mixing it with glucose and have good results with saddle block for rectal, urologic and gynecologic surgery with nupercaine as the drug of choice.

In 136 obstetric patients nupercaine saddle block was used with gratifying results. The equipment for saddle block is the same as for any spinal anesthetic. The puncture is made, preferably in the fourth lumbar interspace, with the patient in the sitting position. A free flow of spinal fluid must be obtained to assure correct placement of the bevel of the needle in the subarachnoid

space. As little spinal fluid as possible should be aspirated to avoid undesirable dilution of the anesthetic. After injecting the drug slowly the patient remains upright for thirty seconds, then she is placed in the recumbent position. Moving about is not permitted for the first five or ten minutes. When the patient sits up for thirty seconds a greater concentration of the drug localizes in the conus than if she is promptly allowed to assume the recumbent position. Uterine contractions continue but the patient must be told to bear down as she is unaware of the contractions. Two and one-half mg. of nupercaine (1/2 cc. of 1/200 solution) is mixed with 1/2 cc. of glucose solution. The average duration of analgesia was three hours. Pain of uterine contraction usually returned in three hours, but the perineum was still anesthetized. Complete relief of pain during labor and delivery occurred in 81 per cent of the patients. Inhalation of analgesic mixtures of nitrous oxide-oxygen was sufficient to relieve the dull ache which resulted in 14 per cent of the patients when forceps were applied or during traction. In 5 per cent of the patients anesthesia was unsatisfactory, probably due to faulty technic. The block was repeated after fifteen minutes and was successful the second time in every case.

The patients were comfortable and cooperative. In 68 per cent a single block was sufficient. In 32 per cent repeated blocks were necessary. Momentary fall in blood pressure, usually about 10 mm. systolic, was relieved by deep breathing. The hypotension with bradycardia, often seen with spinal anesthesia, occurred in only 3 cases. Ephedrine, intravenously, relieved these pressure changes. No respiratory depressions, rectal or urinary incontinence or postoperative headache was observed. No remarkable effect on the duration of labor was apparent. The