

of soda lime or the rebreathing of carbon dioxide from other causes, such as faulty valves. It should be of value in the measurement of carbon dioxide in oxygen tents and in the estimation of the adequacy of ventilation in patients with bulbar poliomyelitis and other acute disturbances in ventilation.

**Lumbar Sympathetic Nerve Block for Obstetrical Analgesia; Preliminary Report of Over 1,200 Cases.** MARY LOU BYRD, M.D., EDWARD Y. POSTMA, M.D., AND GLENN M. VAN DOMMELEN, M.D., Department of Anesthesia and Obstetrics, Butterworth Hospital, Grand Rapids, Michigan.

SINCE November 1953 bilateral lumbar sympathetic nerve block has been used at Butterworth Hospital for obstetrical analgesia in about one third of the patients admitted in labor. The nerve block was achieved by the obstetrician, or obstetrical resident in most instances, blocking the third lumbar sympathetic ganglia, usually after labor was well established and when the cervix of the primipara was 5 to 8 cm. dilated and the multipara's cervix 3 to 6 cm. dilated. After a reasonable trial with 1 per cent cyclaine, the local anesthetic of choice was 1 per cent lidocaine, or lidocaine 1 per cent with 1 to 200,000 epinephrine. Length of action of the drugs used was one and one-half hour with 1 per cent lidocaine and about two hours with the lidocaine-epinephrine mixture. Anesthesia for delivery was most frequently pudendal nerve block supplemented by analgesia with inhalation agents.

Over 1,200 records of patients so treated were analyzed.

The advantages of the lumbar sympathetic block observed were: comfort of the patient during the first stage of labor, lack of depressant effect on the newborn, shortening of labor, complications of nerve block occurred within initial ten minutes—thus requiring less special observation of the patient as far as analgesia is concerned.

The complication most frequently observed was moderate hypotension. Blood pressure was taken frequently for twenty minutes after the nerve block was completed. Generalized convulsions occurred in three patients when 1 per cent cyclaine was used for the block. These patients promptly responded to oxygen and intravenous barbiturates. Epidural block occurred in 6.6 per cent of the patients and subarachnoid block in two patients.

Fifty-nine per cent of the multiparas were delivered in the first hour, 76.7 per cent within one and one-half hours, and 87.4 per cent within two hours. In the primiparas 28 per cent were delivered in the first hour, 45 per cent within one and one-half hours, and 62.5 per cent within two hours.

**The Effect of Volatile Agents and Muscle Relaxants on Evoked Central Nervous System Responses in the Cat.** HAMILTON S. DAVIS, M.D., WILLIAM H. DILLON, M.D., WILLIAM F. COLLINS, M.D., AND CLARK T. RANDT, M.D., Department of Surgery (Divisions of Anesthesiology and Neurosurgery) and Department of Medicine (Division of Neurology), Western Reserve University School of Medicine, Cleveland, Ohio.

In a previous paper, we described the effect of gaseous anesthetic agents on electrically evoked potentials in the central nervous system of the cat. [ANESTHESIOLOGY 18: 634, 1957]. Cyclopropane, ethylene and nitrous oxide were shown to depress evoked potentials in the midbrain reticular formation and, to a lesser extent, the posteroventrolateral nucleus of the thalamus. The present study represents an extension of that work and concerns the effect of muscle relaxants and volatile anesthetic agents. The muscle relaxant group included  $\alpha$ -tubocurarine chloride in a dose range of 0.5–20.0 mg. kg.; gallamine triethiodide (Flaxedil), dose range 2.0–32.0 mg. kg.; succinylcholine chloride (Anectine), dose range 0.5–32.0 mg. kg.; and decamethonium bromide (Syncurine), dose range 0.4–4.0 mg. kg. The intravenous route of administration was used. The volatile anesthetic group included ethyl ether in a concentration range of 5–15 per cent in