

HIMWICH, H. E., AND ETSTEN, B.: *Criteria for the Stages of Pentothal Anesthesia*. J. Nerv. & Ment. Dis. 104: 407-413 (Oct.) 1946.

The neuro-anatomic allocation of the clinical signs in the various stages of pentothal anesthesia are grouped in four stages: "stage 1, clouded consciousness; stage 2, hypersensitivity; stage 3, surgical anesthesia, which, in turn, is divided into 3 planes: (a) light surgical, (b) moderate surgical and, (c) deep surgical; stage 4, impending failure." The brain may be regarded as consisting of five phyletic layers with specific allocations of function. The first layer consists of the cerebral hemispheres, the second is chiefly comprised of the sensory thalamus, the vegetative hypothalamus and the subcortical motor nuclei. The third layer consists of the midbrain, the fourth layer, the pons and upper medulla and the fifth layer includes the vital medullary centers. The clinical signs found in the various stages of pentothal anesthesia proved to be the results of a descending cerebral depression.

"The physiological mechanisms for the clinical changes are two-fold: (1) The march of the symptoms is based upon a metabolic inhibition of the brain starting with the cerebral hemispheres and gradually extending toward the medulla oblongata. (2) The depression of motor phenomena and of respiration is out of proportion to the cerebral metabolic inhibition and is ascribed in part, to a specific effect on nerve function." 28 references.

F. A. M.

MACINTOSH, R. R., AND MUSHIN, W. W.: *Recent Advances in Anaesthetics*. Practitioner 157: 303-309 (Oct.) 1946.

After a stagnant period of nearly 100 years curare has been introduced

dramatically into the practice of anesthesia to facilitate relaxation. Ease of administration enhances the value of the drug but may also increase its hazards. Respiratory paralysis is one of the disadvantages of curare. Artificial respiration and physostigmine are used in the treatment of an overdose. Another disadvantage is that it increases bleeding. This has not been reported by other writers but has been true in cases done or observed by the authors. The cause is unknown but may be due to the action of curare on the sympathetic ganglia or may be due to the diminished action of the thoracic pump, coupled with the fact that the cardiac output is unimpaired. The loss of signs of anesthesia and the general anesthetic effect of large doses of curare are two features of curare which must be kept in mind.

In operations on patients with inflammatory swellings in the neck or floor of the mouth a clear airway is imperative and the choice or condemnation of any particular anesthetic drug is of secondary importance. Artificial respiration presents no problems provided the airway is clear.

The inadvertent injection of pentothal into an artery instead of a vein causes immediate intense scalding pain in the forearm and hand, and has resulted in gangrene and amputation of arm, hand or fingers. This accident is more frequent than the reports would indicate and can be avoided by palpating the vessel before pressure is applied to the upper arm. Infusion into sternal marrow is of value as a means of introducing fluids, including anesthetics into the blood stream.

Continuous spinal analgesia involves technical difficulties or inconveniences which are justified only if the results are better than those afforded by more simple methods. Continuous caudal analgesia for midwifery is very effective when carried out by those skilled

both in obstetrics and in the performance of caudal puncture, but holds much hazard for the novice in either. In states of acute thyroid activity and established thyroid crisis the use of a spinal anesthetic, by paralyzing the adrenal gland improves the patient's chances. Care and common sense exercised when administering a spinal anesthetic should minimize the risk of infection with subsequent headache and more serious sequelae. Procaine administered intravenously is said to relieve many forms of pain in an effective, safe, and prolonged manner. Vascular spasm is said to be relieved by intravenous injection of this drug. 22 references.

F. A. M.

MIQUEL, OVIDIO: *The Effect of Chloroform and Ether on the Activity of Cholinesterase*. J. Pharmacol. & Exper. Therap. 88: 190-193 (Oct.) 1946.

Several attempts have been made to explain the parasympathetic phenomena associated with general anesthesia through an action cholinesterase. Since there is no agreement in the evidence from different laboratories it was decided to carry out a number of experiments in an attempt to clarify the problem. As a result of these experiments it was concluded that "(1) Ether and chloroform in concentration corresponding to those attained during deep general anesthesia do not inhibit the activity of cat serum cholinesterase in vitro. (2) In cats the cholinesterase activity of the serum during deep anesthesia was not depressed. (3) Ether and chloroform in concentrations higher than occur in blood during deep anesthesia inhibit cholinesterase in vitro. (4) The action of ether in the high concentration used is partially reversible. (5) These observations, while not conclusive, support the hypothesis

that the parasympathetic effects observed during general anesthesia from ether and chloroform are not due to the inhibition of cholinesterase." 4 references.

F. A. M.

REYNOLDS, V. J.: *Addition of Penicillin Sodium to Anesthetic Agent for Local Infiltration Anesthesia: Preliminary Report*. Am. J. Obst. & Gynec. 52: 641-644 (Oct.) 1946.

Of 208 consecutive deliveries 169 patients required repair immediately following delivery. Of these, 116 were under local infiltration anesthesia and 53 under inhalation anesthesia. The results of seven repairs were unsatisfactory; three complete disruptions, one fistulous tract, and three partial disruptions. Twenty others were "disturbing" in that redness and edema developed within twenty-four to forty-eight hours, followed by separation of the skin edges, sloughing and sluggish healing. To eliminate the factor of infection the use of penicillin was considered. For 81 consecutive repairs a local infiltration was made of 1 per cent procaine hydrochloride in normal saline to which 250 units of freshly made penicillin sodium were added to each cubic centimeter of the solution. This solution was made fresh at the time of each delivery and an average of 45 cc. was injected into the vulvo-vaginal tissues. Two pudendal nerve blocks were also done. In 77 patients the repairs were considered excellent. In three the results were excellent except for one centimeter shallow separations of the skin at the distal angle. No redness, edema or slough occurred and all three were healed by the fourteenth day. In one patient a large submucosal hematoma required evacuation. Subsequent healing was satisfactory with no sign of infection. Following the use of one brand of penicillin seven patients developed