

lies on the side or back with the legs elevated to 15 degrees. Complete relief of pain is reported within fifteen minutes after caudal injection and no resumption of discomfort is usually reported by the patient. Bed rest with slow, regulated exercise is helpful in maintaining muscle tone with prevention of extension of the thrombophlebitis. An elastic bandage or stocking is recommended for a week or more. The patient is allowed up soon after the course of treatment. Five cases of acute postpartum thrombophlebitis of the lower extremity were treated by the authors with "spectacular, prompt, and complete cure." The method is a sound, simple, superior method of treatment. 15 references.

F. A. M.

PRATT, R. V.: *A Portable, Self-Contained Apparatus for the Induction and maintenance of continuous intravenous anesthesia, with some observations on the use of 'pentothal sodium.'* M. J. Australia 2: 626-630 (Nov. 2) 1946.

Intravenous anesthesia has increased steadily in popularity. The usefulness of the method may be summed up under three headings: 1. the patient, 2. the anesthetist and 3. the facilities available. The condition of the patient is the most important consideration in deciding whether pentothal may or may not be used. The anesthetist who gives or supervises the giving of an intravenous anesthetic should have gained some practical familiarity with the method, should be aware of the possible hazards and should be able to deal effectively with such hazards. The solution of the intravenous anesthetic may be given with a syringe and needle. This method was modified by introducing a fine catheter or tubing between the needle and the syringe. Another method is that of setting up

an apparatus for the intravenous drip infusion of saline solution and intermittently injecting the anesthetic by piercing the infusion tubing. A specially devised apparatus for administering pentothal anesthesia in the presence of a continuous drip saline infusion has been devised by the author. The flask of saline and a container for pentothal solution each have rubber tubing which are joined to a single tube which is connected to the needle. The sterile parts of this apparatus are packaged in a drum which is then placed in the drawer of a carrying case. In the case are other essentials for the administration of intravenous anesthetics. The case, completely equipped, may be obtained from Felton, Grimwade and Duerins, Proprietary, Limited, of 21, Alfred Place, Melbourne.

Pentothal in combination with other anesthetic agents has become increasingly popular. Oxygen or nitrous oxide-oxygen are given with the intravenous anesthetic. Pentothal is used as an induction for ether anesthesia, to supplement a regional or spinal anesthetic, or to make regional infiltration more comfortable. 10 references.

F. A. M.

PALLIN, I. M.: *Curare in the Poor Anesthetic Risk Patient.* New York State J. Med. 46: 2523-2529 (Nov. 15) 1946.

Curare, used wisely, may be of considerable benefit in the poor risk patient and also permits more radical surgery. Curare is eliminated through the kidneys and is detoxified by the liver. Disease of these organs does not contraindicate the use of curare. At the Jewish Hospital of Brooklyn morphine and scopolamine or atropine are used as premedicants and intubation is done before curare is administered. Cyclopropane or nitrous oxide-

ether sequence is used for anesthesia. Intravenous infusion is started. Curare is given simultaneously with the skin incision, through the infusion tubing. Apnea, if it occurs, is controlled by intermittent manual pressure applied to the breathing bag. Additional doses of curare are given as circumstances indicate. Small doses are usually sufficient to maintain relaxation. One or two minutes before peritoneal closure, a dose of curare, only a little less than the original dose, is given. When the fascia is closed, 2 cc. of prostigmine, 1:2,000, is given intravenously. This amount of prostigmine was observed to have no effect on gastrointestinal suture lines.

Of 283 patients in whom curare was used 81 patients were classified as poor risks. The results were most gratifying. Two patients died on the operating table, both of shock, secondary to hemorrhage. No serious complication could be attributed to the curare. The use of curare should be limited to the anesthesiologist who has a thorough knowledge of endotracheal intubation, resuscitation, maintenance of general anesthesia with curare, and of clinical signs of carbon dioxide excess. 17 references.

F. A. M.

KNIGHT, R. T.: *Precision in the Care of the Operative Patient*. *Canad. J. A. J.* **55**: 562-564 (Dec.) 1946.

The art of anesthesia implies something that cannot be clearly seen, and demarcated, that cannot be exactly described and taught. It seems to imply a skill that comes of an inherent intuition, developed and conditioned by special experience. Surgical patients often are out of physiological balance. Restoration of this balance, either before or during surgery, is necessary. The Varco method of alimentary and parenteral feedings is an example of the good work being done

along these lines. Accurate estimation of blood and fluid loss during operation and replacement helps to prevent the onset of shock. Development of practical ways for frequently determining blood concentration and specific gravity will make it possible to vary the speed and type of fluid replacement with greater accuracy than is now possible. Intratracheal intubation, measurement of the pressure in the patient's lungs, removal of carbon dioxide from the anesthetic mixture with soda lime and control of temperature by cooling of the gases are some of the precision measures used by the anesthetist. Control of oxygen concentrations is possible, but there is now no way of determining the extent of carbon dioxide retention. A practical instrument for carbon dioxide and respiratory volume control is within reach. Electrocardiograms of each anesthetized patient may give warning and prevent occasional death on the table. More precision methods for more precisely controlled physiology are needed by the professional anesthetist. 4 references.

F. A. M.

JAILER, J. W. AND GOLDBAUM, L. R.: *Studies on the Plasma Concentration and Tissue Distribution of Sodium Pentothal (sodium ethyl (1-methylbutyl) thiobarbiturate)*. *J. Lab. & Clin. Med.* **31**: 1344-1349 (Dec.) 1946.

A spectrophotometric method, based on the studies of Hellman and associates and of Brodie, was devised for the determination of pentothal. Five rabbits were used in the pharmacologic studies and three rabbits were used in the physiologic studies. Blood samples were also taken from two patients at Walter Reed General Hospital. The studies showed that "the plasma concentration quickly reaches a maximum level soon after intravenous adminis-