ABSTRACTS

Editorial Comment: A fixed style of presentation for this department of ANESTHESIOLOGY has purposely not been defined. It is the wish of the Editorial Board to provide our readers with the type of abstract they desire. Correspondence is invited offering suggestions in regard to the length of abstracts, character of them, and source of them. The Board will appreciate the cooperation of the membership of the Society in submitting abstracts of outstanding articles to be considered for publication.

LABORIT, H: *The Artificial Hibernation.* Acta Anaesth. Belg. 2: 24–29, 1951.
HUGUENARD, P.: *Artificial Hibernation. (New Methods and Latest Results).* Acta Anaesth. Belg. 2: 30–48, 1951.
GOLDBLAT, A.: *Anesthesia by Controlled Inhibition of the Autonomic Nerves.* Acta Anaesth. Belg. 2: 58–75, 1951.

These three papers were presented together December 1, 1951, before the Section on Anesthesiology of the Belgian Surgical Society. They refer to the interruption of the afferent and efferent autonomic pathways at different levels by several drugs and the use of cold to reduce the requirements for oxygen by the tissues.

1. Quaternary ammonium salts have not only the well known muscle relaxing effects on the myoneural junction but can also block at the ganglionic level.

2. Dibenzoparathiazone, a derivative of an antihistaminic drug, is capable of blocking the extrapyramidal fascicle and thereby can potentiate the narcotic effects of weak anesthetic agents (i.e., 5 mg. of morphine and 20 mg. of this antihistaminic derivative equal 150 mg. of morphine in analgesic effect without toxicity). The author (Laborit) cannot explain the mechanism of this synergism. However, he feels that there is some central action on the diencephalon with block of the thermoregulatory mechanism present and also a marked depression of the BMR and, finally, a block of the efferent and afferent autonomic pathways, ganglia and synapses. These blocks explain the ease with which the body temperature can be reduced and kept at a desired level by cooling as well as the remarkable absence of shock during light anesthesia, despite extensive surgery. Laborit feels that the combination of a quaternary ammonium, an antihistamic derivative and nitrous oxide, or a barbiturate or demerol® successfully blocks Selye's "stress response" which, except for short procedures, may initiate the vicious circle which finally leads to irreversible shock.

Huguenard describes 25 and Goldblat 49 major operative procedures. The effects of different drugs used are explained.

In this reviewer's opinion, the whole theory may be open to question. However, the meticulous clinical observations and the thorough work-up of the patients presented show the value of the technique, which is summarized as follows:

(a) Premedication: Pontopon plus atropine plus phenergan®.

(b) Induction: Topical anesthesia of pharynx and larynx. 0.1 per cent procaine intravenously via a polyethylene tube—60–80 drops per minute.

For average weight and risk patient: demerol® 100 mg. and diparcol® 250 mg. alternating fractional doses over a period of 7 to 10 minutes. In poor risk patients the dose of demerol should

be more reduced than diparcol (50 mg. with 150–200 mg.) to avoid serious respiratory depression. The patient is now rather somnolent and the jaw well relaxed, but he can still be aroused. Curare is added (intocostrin® 9 mg. or flaxedil® 60 mg. with 25 to 50 mg. of pentothal®) for intubation under direct vision.

(c) Maintenance: N_2O plus O_2 at the ratio of 1:2 with pentothal or cyclopropane and curare added as needed. The cooling agent is ice, and in some cases hexa- or pentamethonium was also used, but Huguenard questions their usefulness in this technique except where severe bleeding might otherwise ensue. The temperature is kept around 32–34 C. The temperature measured by rectal thermocouple, has to be as carefully observed and recorded as pulse and blood pressure—in fact, the usual signs and symptoms of hypoxia are absent due to the autonomous block, while the temperature curve shows such hypoxia early. Prothrombin time falls sometimes to 35 per cent of normal during general refrigeration. The eosinophile count, too, drops, but much less than during "classical" anesthesia.

Huguenard feels that this technique needs further investigation and study and that it is not yet ready for general use.

Unfortunately, none of the papers give credit to the pioneer work of Faye and F. M. Allen about the effects of cold in its local application in refrigeration anesthesia as well as in general cooling.

E. G. B.

BEINHAUER, L. G.; THOMAS, G. J., AND PERRIN, S. R.: *Intravenous Use of Procaine Hydrochloride in Control of Pruritus.* A. M. A. Arch. Dermat. & Syph. **65**: 39–44 (Jan.) 1952.

"The purpose of this paper is to report and evaluate our experience with the intravenous use of procaine hydrochloride . . . as a therapeutic measure to combat pruritus and facilitate healing in a group of common pruritic dermatoses. . . . Our clinical experiences indicated that a dosage of 0.1 to 0.2% of procaine hydrochloride in 500 cc. isotonic saline solution was best tolerated by our patients when given over a period of 60 to 90 minutes. All patients were routinely given barbiturate medication one hour before injection. Ascorbic acid in the amount of 200 mg. was added to each infusion, as we felt it increased the resistance against toxic side effects and benefited patients with poor nutrition. When edema was present, 5% dextrose was added and removed when the edema subsided. In patients with heavy nervous irritability and fear of the infusion, thiopental (pentothal) sodium U.S.P., in dosage of 200 to 300 mg., was added to the first two or three injections. This afforded a very satisfactory approach to overcome these symptoms and allowed further treatment to be continued without incident. It produced dramatic relief of pruritus and allowed the patient to obtain the much-desired sleep. The most favorable and dramatic responses we obtained with this modified therapy were in the group of generalized neurodermatitis. Each patient in our series received one daily injection. On three occasions, two daily injections were given for three successive days. . . .

"The minimum number of injections given was 2, and the maximum was 30. We soon learned that if relief was not forthcoming within six days, further therapy would be of questionable value. Most patients who reacted favorably to this therapy manifested relief from pruritus after the fourth daily intravenous injection. We did not encounter any evidence of addiction to the drug, and no acquired sensitivity was observed. . . . In our