

ORGANE, GEOFFREY: *Convulsions Following Percaine Local Anaesthesia*. *Lancet* 2: 33-34 (July 11) 1942.

"In February, 1941, a man developed generalised convulsions after the injection of  $\frac{1}{1000}$  'Percaine' in normal saline for a subcostal field block, and died on the operating table; in June and again in November similar convulsions were seen, fortunately without fatal result. This technique had been used for some time without incident, and these three cases, within a year, caused grave concern. . . . Two had received what is now realized to be an excessive amount. The other had severe obstructive jaundice and fever. The amount of percaine should be limited to 15 c.cm. of  $\frac{1}{1000}$  solution per stone of body-weight; the dose must be reduced for extreme youth or age and for toxæmia, cachexia, jaundice and fever. Convulsions must be controlled immediately by the intravenous injection of minimal quantities of pentothal or hexobarbitone. The injection may be repeated if necessary. Artificial respiration with oxygen will be necessary for the respiratory failure which usually follows the convulsions. Circulatory collapse may be countered by intravenous infusion of saline, or by intravenous injection of adrenaline or ephedrine, which antagonise the effect of local anaesthetic agents on the myocardium. The use of convulsants, such as nikethamide or leptazol is questionable." 3 references.

J. C. M. C.

MUNRO, DONALD, AND HARDING, W. G., 2D: *Lumbar Puncture: Its Potential Role in the Production of Injuries to the Intervertebral Disk*. *J. A. M. A.* 119: 482-483 (June 6) 1942.

"The use of lumbar puncture in the investigation of lesions of the central nervous system has become so stand-

ardized that it is almost as much of a routine procedure as the systematic study of the reflexes. The saying that 'familiarity breeds contempt' may be aptly applied to this procedure, for one seldom considers that there is any real danger associated with its use. . . . During recent years the role of herniation of the nucleus pulposus in the pathogenesis of low back and recurrent pain in the sciatic distribution has been confirmed by many investigators. The fact that even small injuries to the annulus fibrosus may produce a hiatus through which the plastic nucleus pulposus can herniate has led us to reevaluate lumbar puncture as a possible etiologic agent in the production of this entity. . . . During the past year a two needle technic of myelography has been developed in the neurosurgical department of the Boston City Hospital. In the course of this procedure the spinal needles are permitted to remain in situ while the lateral spine plates are exposed. This has given us an opportunity to study such needles when in position in the subarachnoid space as regards their direction toward the intervertebral spaces. The punctures have all been done by members of the staff of the department. We have studied a consecutive series of roentgenograms containing fifty needles. . . . Our findings demonstrate that perforating injury to the posterior part of the annulus fibrosus is a distinct possibility during the course of lumbar punctures done without forced flexion of the spine and by men who are familiar with the procedure. The depth to which the needles have penetrated emphasizes the care that must be taken if perforation of the annulus fibrosus is to be avoided. The series is too small to be statistically significant but suggests that the interspace between the last lumbar and the first sacral vertebra is the location of choice, and

that the spaces between the third and fourth and the fourth and fifth lumbar vertebrae should be avoided whenever possible. We do not wish to imply that this form of injury is a frequent or major cause of herniation of the intervertebral disk but rather that it constitutes a mechanical possibility the danger of which must always be kept in mind." 7 references.

J. C. M. C.

RAMOND, S. W.: *Tetracaine Spinal Anesthesia: a Review of 100 Cases in Private Practice*. Illinois M. J. **82**: 141-143 (Aug.) 1942.

"The principal advantages of tetracaine over procaine in rachianesthesia are: long duration of action and slight effect on blood pressure. . . . The ages of the patients covered in this report varied from fourteen to seventy years. . . . The duration of actual operation varied from ten minutes to two hours and forty-five minutes. There was one chest operation, twenty-seven upper abdominal, seventy lower abdominal and two lower extremity. . . . The greatest drop of blood pressure in any one in this group was thirty millimeters of mercury which occurred ten minutes after the anesthetic had been given. No treatment was given and the blood pressure steadily rose, ending at ten millimeters of mercury above the starting pressure. As to post-operative complications they were as follows: atelectasis and pneumonia none. Deaths—three. These were in no way attributable to the anesthetic. . . . Headache of any marked degree had occurred only once. . . . There was a noticeable absence of nausea and vomiting in all of this group, only six having any emesis recorded. Spontaneous peristalsis has been present in all cases except in the patient who died of cholemia. . . . Difficulty in urination was encountered once. . . .

It has been necessary to supplement the anesthesia in two cases, both of which were prolonged and difficult operations. . . . Several other patients were given a small amount of gas in the early stages where the preliminary narcosis had either been insufficient or had had insufficient time to act. After about five minutes, gas was discontinued and the patient would stay in normal sleep throughout the operation, or if they did awaken, would be calm. . . . Spinal anesthesia with tetracaine is highly satisfactory and is of sufficient duration for practically all procedures. Adequate pre-operative preparation of the patient is a necessity and adds greatly to the safety and comfort of the individual."

J. C. M. C.

PAPPER, E. M., AND ROVENSTINE, E. A.: *The Use of Human Plasma in Spinal Anesthesia*. J. A. M. A. **119**: 1248-1250 (Aug. 15) 1942.

"The present preliminary report deals with the use of pooled human plasma as the solvent for procaine employed in spinal anesthesia. The pooled plasma was obtained by centrifugation of refrigerated citrated whole blood with due regard to complete aseptic precautions. The plasma was collected in small rubber capped vials (20 to 50 cc.) and stored in the blood bank. Since pooled plasma has a specific gravity of 1.028 it was used as a heavy solution in the gravity control method for spinal anesthesia. Since Barker had previously demonstrated that duration of anesthesia is dependent on the 'viscid' properties of the anesthetic mixture, experiments on man were carried out to determine whether plasma with its high osmotic tension prolonged the anesthetic action as compared with a solution of procaine in spinal fluid. . . .

"Five volunteer normal men who had not been operated on were used