

flares and the lowest absolute values. The skin flares from intradermal injections of natural allergens also showed a decrease in size under ether anesthesia and in cases of shock. In no case, however, did a strongly positive reaction become negative under anesthesia or shock." 10 references.

J. C. M. C.

MORRISON, L. M.: *A Study of Hepatic Toxicity with Seven Currently Used Anesthetics*. Rev. Gastroenterol. 10: 171-182 (May-June) 1943.

"A comparative study was made of the toxic effects on the liver of seven currently used anesthetics: spinal injections, ether, nitrous oxide, cyclopropane, avertin (administered rectally), evipan (administered intravenously), and chloroform. The patients were grouped as follows: (1) spinal anesthetic in the presence of proved liver disease; (2) spinal anesthetic in patients with proved normal livers; (3) ether in combination, in the presence of proved liver disease; (4) ether in combination, in patients with proved normal livers; (5) cyclopropane; (6) avertin; (7) evipan; (8) nitrous oxide and oxygen; (9) chloroform. . . . In the first phase of our investigation, the postoperative liver function following ether and spinal anesthesia was evaluated comparatively in the presence of liver disease and in patients with normal livers. This study was based on the bile-salt concentration in surgical-drainage bile and in the urine. . . .

"Thirteen groups of selected cases were studied daily postoperatively. . . . In abdominal surgery, in the presence of both the normal and the pathological liver, spinal anesthesia places a considerably smaller toxic burden on the liver than does ether anesthesia. In cases of biliary-tract surgery, the rate of recovery of the pathological livers as well as of the normal livers was considerably more

rapid after spinal anesthesia than after ether anesthesia. In the presence of liver disease, the degree of hepatic suppression or insufficiency following spinal anesthesia was very much less during the first eleven postoperative days than that following ether anesthesia. Sodium evipan, cyclopropane and nitrous-oxide anesthesia had no discernible postoperative toxic effects on the liver. Rectal avertin anesthesia caused postoperative hepatic dysfunction for twenty-four hours. Chloroform anesthesia as used in obstetrics imposed a postpartum toxic liver dysfunction of twenty-four hours' duration." 34 references.

J. C. M. C.

CHIVERS, ELVA M.: *Anaesthetic Explosion Due to Static Electricity*. Lancet 1: 527 (April 24) 1943.

"At about 11 a.m. on July 10, 1942, an anaesthetic explosion occurred in the gynaecological theatre of the West Middlesex County Hospital. The anaesthetic apparatus in use at the time was a Boyle's machine consisting of a table with nitrous-oxide, oxygen and carbon-dioxide cylinders attached, a dry flowmeter, chloroform and ether bottles, and a Magill unit. No CO₂-absorber was attached to this machine. One operation had been performed under a general anaesthetic, and the second patient, a middle-aged woman, was about to undergo a minor gynaecological operation. After a quiet induction lasting about five minutes, during which she was given N₂O-O₂ ether mixture, she was wheeled into the theatre together with the Boyle's machine; the face mask was kept on the whole time. She was then lifted on to the operating table, and the stretcher trolley was wheeled out of the theatre. After about two minutes, during which the anaesthetic mixture had not been changed, and without the slightest indication of anything being

wrong, there was a sudden deafening report, and the anaesthetic table was enveloped in a sheet of white flame. The mask was immediately removed from the patient's face, the oxygen cylinders turned off and removed from the theatre, and the fire extinguished. Nothing further occurred, the whole explosion being over in about two seconds. The patient sustained a slight injury to one eyelid, caused by flying glass; the anaesthetist had several small cuts, a black eye and was deafened. No one else was injured.

"There was no electrical apparatus or open flame of any kind in the theatre, and the anaesthetic machine was earthed by a chain. After the explosion the remains of the Boyle's machine were carefully examined. The oxygen and nitrous oxide reducing valves were found to be in perfect condition and quite free from oil. The chloroform and ether bottles, as well as the thick plate glass top of the table, were completely shattered, the re-breathing bag was destroyed, and spare masks and airways were burnt. The face-piece that had been used was intact, the expiratory valve half open, and the respiratory hose of the Magill unit was intact to within 2 in. of its attachment to the machine. At this spot it had obviously burst, and it was concluded that the initial explosion had occurred there, and passed backwards into the machine."

J. C. M. C.

FRASER, R. J.: *Continuous Lumbar Anaesthesia*. Bull. Acad. Med., Toronto 16: 179-185 (July) 1943.

"In the past two years with continuous lumbar anaesthesia technique with one per cent solution of procaine in normal saline solution we have completed over 500 consecutive cases without incident. Besides this the author has had the privilege of presenting this solution with its technique to the

originator of continuous spinal anaesthesia, Dr. Lemmon, and has demonstrated its technique in thoracic surgery. We believe continuous lumbar anaesthesia is a definite advance and that the one per cent solution has increased its scope and margin of safety. . . . The low dilution enables one to produce complete body anaesthesia without anxiety or alarm. . . . Dosage has ranged from 50 mg. to 650 mg. of procaine given in fractional dosage; that is from 5 to 65 cc. . . . The technique commences with preoperative sedation. . . . Ordinarily at 9 p.m., the night before operation, the patient is given nembutal gr. iii; the following morning, one and one-half hours before operation, nembutal gr. iii to iv ss., and one hour before operation morphine sulphate gr. ¼ with scopolamine gr. ⅓₁₅₀ by hypodermic injection. . . . During operation the morphine or pantopon may be repeated in small doses to maintain the desired sedation." 7 references.

J. C. M. C.

EDWARDS, W. B., AND HINGSON, R. A.: *The Present Status of Continuous Caudal Analgesia in Obstetrics*. Bull. New York Acad. Med. 19: 507-518 (July) 1943.

"Our experience with Continuous Caudal Analgesia has presented convincing evidence that labor and delivery does occur with almost perfect comfort for the parturient, without the necessity of any amnesic or an anaesthetic drug. . . . The mechanics of delivery can be carried out according to the preference of the obstetrician. We do not advocate that any individual change his method. At no time should he become the slave of the method, but he should keep the method his slave. However, it will soon be noted that extreme relaxation of the cervix and perineum are features of continuous caudal analgesia which greatly facili-

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