

tion. . . . 4. As a supplement to the other anaesthetic agents. . . . 5. . . . It would seem to be one of the safer anaesthetic agents to use in cases of diabetes mellitus. . . . 6. Miller and Tovell point out the value of sodium pentothal in the estimation of the prognosis of neurosurgical intervention for the relief of symptoms of Raynaud's disease or essential hypertension. . . . 7. Therapeutic anaesthesia in psychotherapy . . . is probably one of the newer uses of intravenous anaesthesia particularly in relation to sodium pentothal. . . . 8. Control of convulsions. . . . 9. . . . Where analgesia only is desired, without the production of unconsciousness such as where local or spinal anaesthesia is waning or where the patient is apprehensive, morphine sulphate by vein serves a very useful purpose. . . . Morphia by vein is also very useful, both preoperatively and postoperatively, in cases of toxic hyperthyroidism. Sodium pentothal also is valuable in these cases." 11 references.

J. C. M. C.

HEWER, C. L.: *Trichlorethylene*. M. Press 208: 395-397 (Dec. 16) 1942.

"Trichlorethylene stands a better chance than most drugs of being judged on its intrinsic merits and demerits, as it is stable, cheap, easily prepared, non-inflammable and can be used with existing apparatus or with an extremely simple vaporizer."

J. C. M. C.

MARSTON, A. D.: *Two Clinical Cases and a Description of Trichlorethylene*. Guy's Hosp. Gaz. 57: 30-33 (Feb. 6) 1943.

"In two recent cases routine anaesthesia was deemed unsuitable. One was a man of eighty with an acute abdomen, and the other was an infant of twenty days requiring circumcision. . . .

"Case I.—Male, aged eighty years. History.—A few hours before operation he was seized with sudden abdominal pain and suffered a certain degree of collapse. . . . He was given omnopon, gr. $\frac{1}{3}$, to relieve pain, and was prepared for laparotomy. . . . Atropine, gr. $\frac{1}{100}$ was given, and induction was carried out with nitrous oxide gas and oxygen. . . . As an adjuvant, trilene was added, and then a little ether to a mixture of nitrous oxide 50 per cent and oxygen 50 per cent, thus securing adequate oxygenation and muscular relaxation. . . . The patient stood the operation well and made an excellent recovery. Some ten days later, however, a fresh abdominal crisis occurred and he succumbed to a fatal collapse.

"Case II.—Infant, aged twenty days, breast-fed and in perfect physical condition. As the operation was timed for 9 a.m., the usual feed was given at 6 a.m., atropine, gr. $\frac{1}{200}$, being injected subcutaneously at 8:30 a.m. . . . An open mask was used with a single layer of flannel, and chloroform was given in slow drips during the first minute, after which ether was dropped on until the light plane of the third stage was gradually reached. A small airway was then introduced, the mask removed, and a gentle stream of oxygen and warm ether given. The whole face was under constant observation, and only small amounts of ether were used during the sixteen minutes which the operation took to complete. . . .

"Trichlorethylene is a colourless fluid with an odour similar to but less pungent than chloroform, and is not very volatile, having a boiling point of 87 deg. C. and a specific gravity of 1.47 at 15 deg. C. The drug is liable to decompose if exposed to strong sunlight and should, therefore, be stored in amber-coloured bottles. This tendency to decompose is reduced if 0.01 per cent. thymol is added. The

product is manufactured under the name of 'trilene,' and is coloured blue so as to distinguish it from chloroform. The chemical formula is $\text{CCl}_2:\text{CHCl}$. Like chloroform it has three chlorine atoms in its molecule, but, unlike that drug, it does not usually cause cardiac effects other than irregularity of the pulse, and even this is of less frequent occurrence than it is with the use of cyclopropane. . . . Owing to its lack of volatility trilene is not satisfactory when used on an open mask. . . . Stages of anaesthesia . . . are similar to those of chloroform. . . . Trilene being a bland and non-pungent vapour is easily inhaled and does not irritate the respiratory tract. . . . Whether or not capillary oozing is increased is a debatable point. . . . Blood-pressure readings during maintenance anaesthesia show little variation from the normal. Adequate muscular relaxation—one of the most inconstant effects of any inhalation anaesthetic—is not uniform with trilene. . . . In contrast to ether and chloroform, trilene has little effect on the blood-sugar or the blood urea. . . . Trilene is definitely non-inflammable and non-explosive." 3 references.

J. C. M. C.

EVANS, F. T.: *The Present Position of Spinal Analgesia*. M. Press 208: 399-403 (Dec. 16) 1942.

"The cause of spinal analgesia has suffered as much from over enthusiasm as from ignorant criticism. . . . The modern technique aims at producing analgesia to the height required with as little disturbance as possible. The aim, too, is to limit the spread of the drug, so that the analgesia shall remain steady at a fixed level for a sufficient length of time. This is attained, primarily, by the use of certain drugs which are definitely either hypo- or hyperbaric to the cerebrospinal fluid. The so-called isobaric solutions are not recommended, for the cerebrospinal fluid varies in sp. gr. from 1004 to

1010. These light and heavy drugs in combination with suitable posture can be made to give adequate safe analgesia at a predetermined level. . . . The best drug for raising the blood pressure in an emergency is phedraeine 2 c.c. intravenously. This will raise a blood pressure of 70 mm. to 120 mm. Hg. almost immediately, and the blood pressure will then fall slowly to some 100 mg. Hg. . . . Low spinal analgesia is limited to the blocking of the spinal nerves below S. 1. . . . Medium spinal block is limited in its upward spread to the umbilicus (T. 10). . . . High spinal block is not recommended beyond the nipple line (T. 4). . . .

"Many drugs are in use, stovaine, pantocaine, spinocaine, etc., but personal prejudice gives preference to two: ethocaine and percaine. . . . Low spinal block should always be performed with the patient in the sitting posture, and is best obtained by using a hyperbaric solution. . . . High spinal analgesia with Etherington Wilson technique . . . is a method employing the time and temperature technique. . . . Unilateral analgesia with light percaine . . . method of spinal analgesia is used for operations upon the kidney and is highly satisfactory. . . . The pentothal-spinal-gas oxygen technique . . . is a combination of preliminary pentothal, followed by heavy percaine spinal analgesia with nitrous-oxide and oxygen to keep the patient sleeping. . . . No patient should ever be subjected to an operation under spinal analgesia without adequate and generous premedication. The patient should be so drowsy that he falls asleep during the operation. . . . Site of puncture should never be higher than the second lumbar interspace (i.e., between L2 and L3) for the cord sometimes ends lower than usual, and is liable to damage. The usual site is the third lumbar interspace. 'Dry tap' in the writer's opinion . . . is due to the dura mater not being sufficiently stretched.