

saline tends to protect the body proteins, carbohydrates, and fats, because it is a utilizable source of energy which is not stored. Vitamins may be added to the alcohol solution without rendering the vitamins inactive.

"The sedative and analgesic qualities of the 5 per cent alcohol solutions are very dramatic. With spinal anesthesia, which is used in 22.2 per cent of our urological surgical cases, we have employed 5 per cent alcohol as a supplement during the entire operative procedure. Patients who have this form of medication, doze, relax, lose all apprehension, and often have no memory of the surgical interlude. Postoperatively, the 5 per cent alcohol solution has been continued with the most gratifying results. The use of an opiate or other sedative may be eliminated entirely if the rate of flow of the intravenous alcohol is regulated to the patient's needs. We do not permit more than 3000 cubic centimeters of the 5 per cent alcohol over a 24 hour period. We usually find 1000 to 2000 cubic centimeters adequate. The value of intravenous alcohol in postoperative recovery is twofold. Not only is it given as a sedative and analgesic, but as a safeguard against the possibility of atelectasis and other pulmonary complications. The respiratory rate and tidal exchange remain the same or are increased. . . . In 5 per cent and 10 per cent solutions, it is beneficial in patients troubled with heart diseases. It increases the dilatation of the blood vessels and possibly the coronary arteries, so that even though fluids are given intravenously, the blood pressure is not significantly increased. In cardiacs, one may use a 10 per cent solution of alcohol, thereby decreasing the actual amount of fluid intake necessary to maintain the required caloric intake. In the debilitated and morbid patient we have eased restlessness and pain. In the cancer patient who has

previously been made comfortable with fluids and morphine, we have markedly reduced the necessity for opiates. In the alcoholic, who is approaching or has developed delirium tremens due in part to the sudden withdrawal of his customary alcoholic intake, we have been successful in controlling him with intravenous alcohol when all other medications in the usual dosages have failed.

"The complications that have occurred from the intravenous infusion of 5 per cent or 10 per cent alcohol have been minor. Occasionally, when the fluid had been given too rapidly, there has occurred restlessness and inebriation. It is singular that few cases have needed restraint. The infusion can be discontinued or slowed, with the resultant return to the quiet state of well-being. Occasionally the administration has been complicated by the sclerosed vessel. This occurs more frequently with the 10 per cent than the 5 per cent solution. We have had one partial ulnar nerve paralysis which may have been caused by subcutaneous alcohol in the cubital fossa. Because of this occurrence, we suggest the use of blood vessels other than those in the cubital fossa, and recommend that the beginner at venipuncture use saline for the cannulation of the needle before changing to alcohol. In numerous cases the alcohol has run subcutaneously without causing symptoms other than slight discomfort. This has been relieved by warm, moist applications." 13 references.

J. C. M. C.

FIRTH, J. B., AND STUCKEY, R. E.: *Decomposition of Trilene in Closed Circuit Anaesthesia*. *Lancet* 1: 814-816 (June 30) 1945.

"A number of fatal cases have been reported following 'Trilene' (trichloroethylene) anaesthesia using the closed circuit technique. Our investigations

into the cause of two deaths following such anaesthesia disclosed that the trilene had undergone decomposition while in contact with soda lime in the apparatus, and further work was started to discover the extent of decomposition and the substances produced. . . . Trilene undergoes decomposition in the presence of soda lime, producing, among other substances, dichloroacetylene and phosgene. . . . This decomposition occurs at room temperature but is greatly increased as the temperature rises. . . . The presence of moisture affects the decomposition products, little dichloroacetylene being formed. Ether retards the decomposition of trilene over soda lime and stabilises the dichloroacetylene produced. . . . General results show that trilene should on no account be used as an anaesthetic in the presence of any alkaline carbon-dioxide absorbent." 2 references.

J. C. M. C.

MALLINSON, F. B.: *Curare in Anaesthesia*. *Lancet* 2: 75-76 (July 21) 1945.

"Intocostrin is a pure extract of curare. . . . For practical purposes in normal adults, I have injected up to 3 c. cm. of the solution intravenously during 1-2 minutes, just before the peritoneum is to be opened, the patient being under light anaesthesia. Relaxation with contracted gut develops within 4 minutes, usually in 1-2 minutes. If relaxation is insufficient or the operation prolonged, repeat doses of up to 2 c. cm. will effectively restore relaxation. The maximum amount I have given during one operation has been 10 c. cm. . . . Concomitant anaesthesia need never be deep but for satisfactory results should be into plane 2, because curare is inadequate as the sole relaxing agent. . . . None of my cases has shown any untoward effects during or after operation referable to

the action of curare. The small number of cases so far studied (40) renders any figures of postoperative complications valueless, but no increase over more usual methods of anaesthesia has been noted." 7 references.

J. C. M. C.

ANONYMOUS: *Curare in Anaesthesia*. *Lancet* 2: 81-82 (July 21) 1945.

"Two things at least seem certain—that like many other potentially noxious drugs, curare, in proper and controlled dosage, is safe and produces a desirable effect, in this case muscular relaxation; and that when an unduly generous dose is given, respiratory paralysis occurs with a suddenness as dramatic as after an overdose of 'Pentothal' or cyclopropane. This complication holds no terrors for the modern anaesthetist, since it responds to artificial respiration. If pentothal is 'safe' curare is safe. And if curare is to be condemned because a little too much stops breathing, so must pentothal. The safety of these drugs depends on the administrator. . . . When using curare, the anaesthetist soon learns that those reflexes he calls 'the signs of anaesthesia' can no longer be elicited, however little general anaesthetic has been given. They form no guide as to whether his patient is feeling pain or is unconscious. Care must therefore be taken to deaden sensation and ensure unconsciousness, or the worst imaginings of the novelist may come true, for the patient can give no sign if the general anaesthetic is ineffective. The danger of curare is paralysis of the respiratory muscles. Intercostal paralysis, which every anaesthetist should be able to recognise without fail, usually occurs before diaphragmatic. . . . Reliance should then be placed on artificial respiration by inflating the lungs with oxygen, and since this has always been carried out no patient has come to any harm