Abstracts

volume was determined with T1824 and the extracellular fluid, with sodium thiocyanate. Anesthesia under light pentobarbital had no apparent effect on the fluid distribution. Light anesthesia did prevent vomiting that occurs in most dogs following digitalis administration. The drug used was tincture of digitalis which contained 1 U.S.P. XII digitalis unit per cubic centimeter. The dosage was 0.3–0.6 cc. per Kg. diluted with saline and given intravenously.

Two groups of dogs were used; one anesthetized and the other unanesthetized. The results were essentially the same in both groups. After administration of digitalis, there was a gradual rise in the hematocrit and at the end of several hours most animals showed considerable hemococoncentration. At this time most animals showed a significant reduction in plasma volume and an increase in extracellular fluid as measured by the above method. These changes have been found to persist for three to four days following a single dose of digitalis. The maximum effect seems to occur in 4–8 hours. In many experiments, digitalis caused an augmentation of 50–60 cc. per Kg. This amounts to 500–800 cc. per dog increase in extracellular fluid. The greater proportion of this fluid must come from the cells.

J. M. B.


Ginn and Volker found that 50 ppm. of fluorine as sodium fluoride in the drinking water of animals caused a reduction in the hemoglobin. Valjavec injected 1.0 per cent solution of sodium fluoride intravenously so as to provide 10 to 30 mg. of fluorine per kilogram body weight; he found there was a slight reduction in the hemoglobin and the red blood count. Greenwood, Hewitt and Nelson found no change in the hemoglobin and blood coagulation resulting from sodium fluoride in milk given to young dogs. Roholm observed in human cases exposed to the fluorine mineral, cryolite, that there was a slight reduction in the red blood count but not in the hemoglobin.

The relation of fluorine exposure to blood hemoglobin and hematocrit values in rats was studied in several strains of the species, using several diets and for different experimental periods. There were no differences between control and test animals to indicate any effect of fluorine on the hemoglobin and hematocrit values for these rats' blood.

J. M. B.


Experience has taught that cardiac arrest can occur in any patient, with any anesthetic agent, and with any anesthetist. For obvious reasons, a general emergency surgeon is more often confronted with impending death under anesthesia than is the surgeon engaged in special branches.

Two fundamental conditions are segregated; blue asphyxia (primarily respiratory) and white asphyxia (primarily cardiac). The latter is far more serious. After twenty years' observation, the author has now abandoned expending time in performing artificial respiration and injecting adrenalin into the ventricle. He recommends immediate cardiac massage when the heart stops. The current plan of action includes intermittent compression of the ventricles through the diaphragm within one and one-half minutes after the stoppage occurs. It appears that the early anxieties and
later complications that follow temporary cardiac cessation are proportional to the length of time the organ is functionless.

The time limit for successful cardiac massage is a great deal longer in cases where the heart has ceased to beat after blue asphyxia, as the cerebral mechanism is not deprived of blood.

In sudden cases of vasomotor collapse where a pint or more of fluid must be put into circulation in a matter of minutes, injection by syringe (not by gravity) into the bone marrow is a method that has yet to be better and is advocated by the author for use in desperate crises.

M. F. P.


Myanesin, a synthetic drug "B.D.H. 312" produced by The British Drug Houses Ltd., was given to the above author for the purpose of clinical investigation in anesthesia. Despite a long term program of investigation of this new drug, this author has been so pleased with the results obtained to date that he has made a preliminary report on the first 112 cases. The purpose of this report is to acquaint the world with the potentialities of myanesin and to permit all competent anesthetists the opportunity of comparing this drug with curare.

The formula of myanesin is alpha-beta-dihydroxy-gamma-(2-methylphenoxyl) propane. It comes as a solution in ampoules containing 1 Gm. in 10 cc. The solution may be boiled. It may be mixed with sodium pentothal without any precipitate forming.

The pharmacology of myanesin has been thoroughly investigated in animals. There is no evidence of any toxic effects on any organ of the body in doses well in excess of those therapeutically effective. No effect has been noticed on the tonus and contractions of intestinal muscle. In animals narcosis is produced in addition to paralysis, but 13 to 27 mg. per Kg. in humans produces no demonstrable narcotic effect. Addition of a small dose of pentothal produced narcosis accompanied by good abdominal relaxation. Absence of narcosis in human beings may be explained by relatively small doses; 200–300 mg./Kg. are necessary for narcosis in animals. This is an impressive indication of the wide margin of safety experienced with myanesin. Its action is so enhanced by pentothal that full abdominal relaxation is easily obtained in man with doses of 10–15 mg./Kg.

A short description of the method of use shows that usual premedication is satisfactory. 5–10 cc. of myanesin is given intravenously a few seconds before the peritoneum is opened. Full relaxation follows in a few seconds. Doses of 5–10 cc. may be repeated as often as required during long operations. As much as 50 cc. has been given during operations without any adverse postoperative effects. There is rarely any intercostal paralysis; sometimes there is slight respiratory depression which lasts only a minute or two. Used with the various general anesthetic agents, plane I is sufficient for practically any type of operation.

Concerning the action of this drug on the physiology of the body, there has been noted no particular change in blood pressure or intestinal motility. The effects on the vocal cords are somewhat variable. Laryngeal spasm occurring under pentothal-gas-oxygen from any cause can be rapidly controlled with an injection of myanesin. In Cesarean sections a smoothing effect was achieved by combining a few cubic centimeters of this drug with an otherwise inadequate dose of pentothal. Postoperatively with the use of this drug, patients were brighter.