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.

MALLINSON, BARNETT F.: *A New Synthetic Curarising Agent in Anesthesia.* The Lancet **1**: 98–100 (Jan. 18) 1947.

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-methylphenoxy) 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

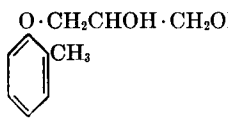
and more comfortable than those receiving spinal, deep general anesthesia or curare. In a diabetic there was no upset of carbohydrate metabolism or postoperative acidosis. Postoperatively with the use of this drug, 12 per cent of patients vomited; 4 per cent more than twice.

In summer, myanesin holds great promise but still must be considered an experimental drug. This drug appears to have well marked advantages over curare. It has a wider margin of safety than curare. Doses of 5–20 cc. (7–28 mg./Kg.) produce no undesirable effects. Abdominal relaxation is obtainable even in the conscious patients without any distress. The drug doesn't cause intercostal paralysis in doses producing full relaxation of the abdominal muscles. In most cases it is much more effective with barbiturate anesthesia than is curare and apparently enhances the action of the barbiturates. So easily is abdominal relaxation obtained under pentothal-nitrous oxide-oxygen when myanesin is used that the use of the more toxic cyclopropane is not necessary. It is effective under the lightest possible anesthesia thus reducing the amount of general anesthesia needed. No bronchospasm or salivation occurs even when no atropine or hyoscine has been given and even in the conscious patient.

J. M. B.

BERGER, F. M., AND BRADLEY, W.: *Muscle-Relaxing Action of Myanesin.* Lancet **1**: 97 (Jan. 18) 1947.

Myanesin belongs to the class of alpha-glycerol ethers and has the following formula:



(alpha: beta-dihydroxy-gamma-(2-methylphenoxy) propane).

Solutions of myanesin, which is readily soluble in water, are stable and unaffected by light, air, cold and dilute acids and alkalis; sterilized by heat or infiltration and are freely miscible with solutions of sodium chloride, glucose and derivatives of barbituric and thiobarbituric acids.

Myanesin does not appear to act on the brain, because it does not affect consciousness and never causes prenarcotic excitement. Its action is apparently due to depression of reflexes in the spinal cord. Myanesin produces relaxation without embarrassment of respiration.

The mean lethal and mean paralyzing doses in mice after intraperitoneal administration were 610 ±10 mg./Kg. and 178 ±8 mg./Kg. Myanesin is quickly detoxified and broken down in the body. It has a potentiating effect on barbiturate anesthesia producing deep narcosis. It has a strong antagonistic action against strychnine convulsions. Blood pressure shows no change except for a fall with extremely large doses (30 mg. intravenously to cats and rabbits produced no change in blood pressure).

J. M. B.

SNYDER, HOWARD E.: *Replacement of Blood in Management of Wounds.* J. A. M. A. **133**: 219–223 (Jan. 25) 1947.

It became increasingly evident, during the American campaign in North Africa, that although many battle casualties suffering from shock responded well to the administration of large quantities of plasma, some of the more severely wounded did not respond until treated with whole blood transfusions. The increased use of blood from January 1944 to May 1945 was reflected in a decided decrease in mortality among American casualties in Fifth Army hospitals during that same period.