With fatal doses, death in all these animals is due to asphyxia, attributed in part to curarization of respiratory neuromuscular junctions peripherally and in part to stimulation centrally. The asphyxia may be relieved by neostigmine (peripheral action) or by sodium amytal (central action). Sodium amytal protects 60 per cent of rats from the effects of a dose of intocostrin (2 units per kilogram) fatal to 95 per cent of untreated rats. The other 40 per cent of rats given sodium amytal prior to intocostrin live twice as long after the intocostrin injection as those not given sodium amytal. Central nervous depressants (sodium amytal, cyclopropane), decrease, abolish, or prevent intocostrin convulsions. Reduction of asphyxia by oxygen administration or artificial respiration is less, if at all, effective in controlling convulsions. The conclusion from these observations that central nervous stimulation is one of the pharmacodynamic actions of intocostrin is in agreement with the conclusions of other workers using other curare preparations. The flaccidity and decrease of spontaneous movements manifested by mammals given intocostrin or d-tubocurarine alone do not develop into complete neuromuscular paralysis until just before death. In animals given a central nervous depressant in addition to intocostrin muscular relaxation becomes complete at an early stage of intocostrin action. Certain central nervous system depressants may be useful adjuncts to intocostrin to combat central stimulation as well as to increase muscular relaxation." 18 references.

J. C. M. C.


"Curare has proved useful as a means of obtaining improved muscle relaxation during anesthesia. It appears to be a safe drug when it is used in the proper fashion. Its chief disadvantage is the relatively narrow margin between the optimal dose and the dose producing respiratory paralysis. It should be used only when means of efficient artificial respiration and prophylaxis are immediately at hand. It should be used only by those experienced in the science and art of anesthesia and it should not be used to cover up errors of commission and omission in the anesthetic technique. It will gain and retain respect as a useful adjunct to anesthesia if it is employed within the limits of its pharmacologic properties and it is not abused by excessive and indiscriminate use."

J. C. M. C.


"Brazier and his associates have shown with the aid of the electroencephalograph a depressant effect of pentothal sodium on the several parts of the cortex. First the frontal area was depressed, then the parietal and, last, the occipital. It has been demonstrated in vitro that barbiturates exert an inhibitory effect on cellular respiration of the brain, particularly in the parts of the brain with the highest oxygen intake, such as the more cephalic regions, which suffer the most pronounced metabolic retardation. . . . An opportunity to determine whether the cerebral hemispheres are depressed before other parts of the brain is made possible by the course of the cerebral venous return. If, for example, the administration of a drug reduces the arteriovenous oxygen difference of the blood from the side carrying the cortical component more than that from
the opposite side and the cerebral blood flow is not accelerated, the results would indicate that the cerebral hemispheres are the first part of the brain to be depressed by that drug. Such results would cast light on the pattern of action of the drug used.

"On 11 of 12 patients control observations were made by drawing successive samples of blood from both internal jugular veins and from the brachial artery, with the use of procaine anesthesia. On another day pentothal sodium, in 1 per cent solution, was administered intravenously to each of these subjects, who had not received previous medication. When the patient was in light surgical anesthesia, three needles with stylets were inserted and made secure with strips of adhesive tape; a 19 gage needle was placed in each internal jugular vein and a 20 gage needle in the femoral artery. As a result of this preparation samples of blood could be drawn simultaneously from the three vessels. This simultaneity is an essential step in a comparison of the arteriovenous oxygen differences for the right and left side for any given time.

"In this investigation on the pattern of the action of pentothal sodium on the brain, it was possible to show that the cerebral hemispheres are the areas first involved in the depressant action of this drug. A total of 36 observations were made on 12 subjects under pentothal anesthesia. Of 22 observations, made at the lighter levels of anesthesia, the results may be divided into two groups: In 9 of the subjects the arteriovenous difference on one side was more depressed than that on the opposite side, and in the 3 remaining patients the arteriovenous differences were similar on the two sides. Further evidence supporting the differences between the values for the right and left internal jugular vein is obtained from the data for glucose and lactate, for in the same 3 patients in which the arteriovenous oxygen differences were always within the experimental error the arteriovenous glucose and arteriovenous lactate differences exhibited a similar agreement, while in the other 9 patients the paired results did not show a similar precise concordance. With deeper anesthesia the subcortical parts became more involved, and the paired arteriovenous oxygen differences for the two sides were greatly depressed and within the experimental error in all but 2 of 14 observations. These results indicate that oxidation is not decreased to the same extent in all parts of the brain at the lighter levels of barbiturate anesthesia but that the cerebral hemispheres are the areas of the brain preponderantly involved in the depressant action of the drug. The other parts of the brain gradually suffer an increasing inhibition of oxidation as the deep levels of pentothal anesthesia are produced." 13 references.

J. C. M. C.


"The introduction of novocain nerve block in anesthesia under Pentothal Sodium is directed at strategically placing the solution so as to interrupt transfer of noxious afferent stimuli centrally, thus minimizing the reflex stimulation of the respiratory center. By such a physiologic maneuver the intermittent demands for increased administration of Pentothal Sodium are eliminated and the total overall demand for the drug is sharply reduced. The present report specifically discusses the use of intravenous Pentothal Sodium combined with intercostal nerve block in the performance of radical mastectomy for carcinoma of