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
the breast. It is based on a comparative study of two groups of cases. The first group consists of four radical mastectomies performed under Pentothal Sodium alone. The second group consists of six radical mastectomies performed under Pentothal Sodium and supplemental intercostal novocain block. . . All novocain blocking is carried out by the surgeon via a transincisional approach after the incision has been made. By this method the surgeon may place the novocain solution strategically, precisely and visually. . . The patient is carried into a light third stage of surgical anesthesia with Pentothal Sodium, which permits a skin incision to be made. In this study the drug was administered in a 1 per cent solution according to the fractional drip method. . . With the fingers of the left hand identifying each rib successively from the eighth or ninth upward to the fourth, a needle is advanced under the lower border of each rib until it penetrates the compartment between the external and internal intercostal muscles in which each intercostal nerve runs, and here 2 or 3 cc. of a 1 per cent solution of novocain is deposited. The axilla is then dissected sufficiently to expose the upper four ribs and to identify and protect the axillary vessels and nerves, following which the four upper intercostal nerves are similarly novocainized. The deposition of novocain should be made posteriorly to the midaxillary line, which is the point of emergence of the lateral cutaneous branches of the intercostal nerves. . . The mastectomy may then be completed with need of but little more Pentothal Sodium. . . A comparable sharp reduction in the rate of utilization of the drug during radical mastectomy for cancer of the breast followed the supplemental use of intercostal nerve block.” 2 references.

J. C. M. C.


Barbiturates are known to reduce the oxygen intake of excised cerebral tissues. It was noted that higher parts of the brain are depressed to a greater degree than the lower portions by pentobarbital.

An indirect method to measure cerebral blood flow was used in seven dogs. Determinations were made at two depths of pentothal anesthesia; one in which anesthesia was the lightest possible that would permit manipulations and another in which nocuous stimulation evoked no apparent response.

The effect of light pentothal narcosis was compared with that of deep anesthesia and the average oxygen intake in the brain was found to fall from 5.9 cc. oxygen per 100 grams of tissue per minute to 2.6 cc. oxygen per 100 grams of tissue per minute, a decrease of 56 per cent. The cerebral metabolic rate is higher than that obtained from the brain of man and monkey using the same methods, and the difference is imputed to the fact that in the dogs the venous blood came chiefly from the cerebral hemispheres which possess a faster metabolism than the lower parts of the brain.

M. F. P.


"In this article, it is proposed to point out some of the advantages that pertain to the use of regional anesthesia in particular as it applies to the emergency surgery of the extremities. . . . The flooding of the tissues and