



FIGURE 2.

CORRESPONDENCE

INACTIVATION OF PENTOTHAL.

To The Editor:

The short-acting barbiturates are known to be detoxified in the body, particularly by the action of the liver. Among the well known representatives of this group is one, namely, pentothal (thiopentobarbital) which is a notable exception to this rule since resection of or damage to the liver does not influence the action of this drug in contrast to other barbiturates of this class. (Scheifley, C. H., and Higgins, G. M.: Effect of Partial Hepatectomy on Action of Certain Barbiturates and Phenylurea Derivative, *Am. J. M. Sc.* 200: 264-268 [Aug.] 1940; Kohn-Richards, R., and Appel, M.: Barbiturates and the Liver, *Anesth. & Analg.* 20: 64-77 [Mar.-Apr.] 1941.) Removal of kidneys is also without effect upon the action of this barbiturate. While there is no doubt that pentothal is destroyed in the body, efforts to localize the primary site of its degradation have so far been unsuccessful. (Masson, G. M. C., and Beland, E.: Influence of Liver and

Kidney on Duration of Anesthesia Produced by Barbiturates, *ANESTHESIOLOGY* 6: 483-491 [Sept.] 1945).

We have conducted a series of experiments in which a 0.5 per cent solution of pentothal was made up in heparinized rabbit blood. This solution was incubated at 37.5 C. for various periods of time. Intravenous injections of 0.5 cc. heparinized rabbit blood are tolerated by mice without symptoms. The hypnotic dose of an 0.5 per cent freshly prepared solution of pentothal in iced blood is 3 cc. per Kg. intravenously in mice. After fifteen minutes' incubation approximately 5 cc./Kg., after thirty minutes 6 cc./Kg., and after sixty minutes 7 cc./Kg., are necessary to produce sleep. This clearly indicates that blood inhibits the typical hypnotic action of pentothal and that the rapidity of destruction is in general agreement with the short action which pentothal exerts in the whole animal. Thus in thirty minutes ap-

proximately 50 per cent of the pentothal is inactivated as measured by the hypnotic effect in mice.

If the blood solution is kept at 2 C. the decomposition of the drug occurs at a much slower rate. Incubation for one hour or longer results in the appearance of a toxic depressing substance which has not yet been identified. Since rabbit plasma fails to destroy pentothal the active principle must be contained in the formed elements. In contrast to pentothal the hypnotic action of pentobarbital was not affected by a similar incubation in blood: This indi-

cates a profound change of the metabolic properties of this barbiturate if the oxygen in 3-position in pentobarbital is replaced by sulphur. The participation of other tissues in the metabolism of pentothal in vivo is probable. Further studies designed to elucidate the mechanism underlying this observation and attempts to identify the resulting products are in progress.

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COMMUNICATION FROM COMMITTEE ON POSTGRADUATE EDUCATION

The following has been mailed to the Directors of Anesthesiology in institutions having accepted residencies in the specialty:

To the Director of Anesthesia:

At the October 17th meeting of the Board of Directors, American Society of Anesthesiologists, Inc., the subject of eligibility of candidates for a Residency or Fellowship in Anesthesiology was thoroughly discussed. This matter was prompted by the number of applications for such instruction, received by veteran hospitals and/or the Committee on Post-Graduate Education, a few of which were from graduates of foreign medical schools and others in this country not specifically accepted by the American Medical Association.

In order to give every candidate who is a graduate of such schools fair and due consideration as well as to maintain the

standards of our Society and of the A.M.A., it has been decided that Directors of Anesthesiology contact Dr. Paul M. Wood, Secretary of the American Board of Anesthesiology for information and advice. This should be done *before* such candidates are officially appointed as residents or fellows in Anesthesia. Clarification as to the significance of passing the National Board Examinations, the status of certain foreign medical schools, service in the American Armed Forces, may be obtained from Dr. Wood.

Trusting that this procedure will eliminate embarrassment and confusion to both prospective residents or fellows, Directors of Anesthesia, and thanking you for your cooperation, I remain,

Cordially yours,
STEVENS J. MARTIN, M.D.,
*Chairman, Committee on
Post-Graduate Education*