intravenous injection of India ink in dogs causes retention of bromsulphalein are confirmed. The dye retention becomes progressively greater with repeated daily injections. These observations, in conjunction with the finding that splenectomy produces a period of temporary dye retention may be interpreted as indicating that bromsulphalein excretion is related in some way to the reticulo-endothelial system, and that the degree of dye retention may be used as a quantitative expression of the degree of "blockade" or impairment of the reticulo-endothelial system produced by blockading procedures. A marked degree of impairment, as measured by the dye retention can be produced during the course of 2 or 3 hours by a continuous injection of blockading agents. Saccharated iron oxide was found to be less effective as a blockading agent than India ink as measured by the bromsulphalein dye retention which it produces.

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Anaphylaxis in the Normal Unanesthetized Dog.

J. M. BEAZELL, WM. B. BRADLEY AND A. C. IVY.

From the Department of Physiology and Pharmacology, Northwestern University Medical School, Chicago.

During the course of an investigation carried out in this laboratory, anaphylaxis was induced in 61 normal unanesthetized dogs. Since references in the literature to anaphylaxis produced under these conditions in a large series of dogs are meager, it was deemed advisable to record our results.

The dogs were sensitized by injecting 5 cc. of normal horse serum subcutaneously and 5 cc. intravenously. After a 16 day incubation period the animals were given the provocative dose of horse serum consisting of 10 cc. administered intravenously.

Evaluation of the anaphylactic reaction in unanesthetized animals depends on the observation of symptoms and not on the determination of measurable responses; so it is subject to individual interpretation. This difficulty was overcome as far as possible by dividing the reactions into several classes according to their intensity, and then arbitrarily designating certain sets of symptoms as characteristic of each class. Thus all reactions are described as either slight, moderate, moderately severe, or severe. In a slight reaction the animal shows only slight transitory symptoms, little or no dis-

turbance of respiration, never loses interest in his surroundings, and will eat meat 5 minutes after the injection. In a severe reaction the animal can not be aroused from the stuporous state in which he lies on his side and manifests marked respiratory difficulty. Moderate and moderately severe reactions are graded between these extremes. In a moderate reaction the animal, although weak and ataxic, is able to move about unsteadily under his own propulsion. In a moderately severe reaction the animal sinks to the floor but can be aroused from his stupor and made to stand on his feet.

Classification does not depend entirely on the symptoms outlined above since reactions differ qualitatively as well as quantitatively. These symptoms act merely as rough determinants, the full evaluation depending on the judgment of the observer. In a characteristic moderate reaction the dog presents the following symptoms. Following an initial progressive ataxia which is most manifest in the hind legs, the animal becomes progressively weaker until he sinks to the floor. During this period, which occupies from 2 to 5 minutes, there is an involuntary passage of urine and feces accompanied by violent retching and vomiting. After sinking to the floor the dog can walk about if placed on its feet, but soon sinks to the floor again. Respiratory symptoms usually set in about 5 minutes after the injection of the shocking dose of horse serum. They are characterized by a prolonged labored inspiration. The symptoms reach their height in about 5 minutes and then gradually abate until at the end of 30 minutes the dog is well on the way to recovery.

Of the 61 dogs 13 (21.5%) had a slight reaction, 26 (42.6%) had a moderate reaction, 10 (16.4%) had a moderately severe reaction, and 12 (19.7%) had a severe reaction. It should be noted that 63.9% of the reactions are classified as either slight or moderate. No dog entirely escaped a reaction although in 5 it was so slight as to be insignificant. Only one dog died an acute death (that is, within 30 minutes of the injection of the provocative dose of horse serum).