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The Vagi and Appetite.

P. H. HOLINGER, E. H. KELLEY AND A. C. IVY.

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

We desire to record an observation in regard to the relation of the vagus nerves to appetite, an observation indicating that afferent sensations mediated by the vagi may be responsible for anorexia in abnormal gastro-intestinal states. Our reasons for recording an observation on one animal are as follows: (a) The animal preparation on which the observation was made is difficult to care for in that the feeding requires almost the full-time attendance of one individual and there is no likelihood of our being able to repeat the observation on other animals in the near future; and (b) the observation has a direct bearing on the interpretation of the results of those who are now investigating the subject of appetite, especially as related to Vitamin B deficiency, a problem in which we are not interested immediately.

In September, 1930, a dog was prepared¹ with a pouch of the entire stomach with vagi intact and a jejunal fistula for feeding. The pylorus was cut across, the duodenum closed and the pyloric opening brought to the outside, the jejunal fistula having been made previously. Nothing was allowed the dog by mouth for 3 months. At this time we tried to induce the dog to eat, but failed. The dog was on a diet supplemented with vitamins, including Vitamin B concentrate. On rare occasions we were able with much effort to induce the animal to eat an ounce or 2 of food. This continued throughout the period of one year, during which the body weight and nutrition were maintained solely by jejunal feeding. We thought

¹ Scott, Holinger and Ivy, *PROG. SOC. EXP. BIOL. AND MED.*, 1931, **28**, 569.
Scott and Ivy, *Ann. Surg.*, 1931, 1197.

that the appetite mechanism had been "reconditioned", *i. e.*, the dog, "satisfied" with the jejunal method of feeding, had lost the desire to eat by mouth, since the animal was doing well and a desire to take food by mouth could not be stimulated by administration of the various vitamins in large quantities. This explanation, however, was obviously unsatisfactory. Since we were primarily interested in the study of gastric secretion and motility of this animal, we desired to ascertain the effect of sectioning the vagi just above the diaphragm on these processes in this animal preparation. To our surprise, as soon as the animal recovered from the anesthetic, he bolted a pan of food belonging to another dog, and the following day manifested coprophagy. The excessive appetite of the dog has persisted unabated for the past 5 months and might be compared to that of a normal young dog starved for 48 hours. The only interpretation of this sudden return of appetite that has occurred to us is that section of the vagi severed the pathway of the impulses responsible for the production of anorexia. We believe the impulses responsible for the anorexia arose as the result of the disturbed gastro-intestinal state or irritation of the intestine and possibly the colon by the pabulum or method used in feeding. We hope to amplify and extend this observation by other experiments some time in the future.

This observation indicates that the anorexia associated with gastro-intestinal disturbances, and possibly vitamin B deficiency, is due chiefly to afferent sensations mediated by the vagi.

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Effect of Reticulo-Endothelial Blockade on Uric Acid of Blood.

R. I. KLEIN AND S. A. LEVINSON.

From the Department of Pathology, University of Illinois College of Medicine.

Folin and his associates¹ demonstrated that uric acid injected intravenously into dogs in standard amounts disappears from the blood in a characteristic manner, *i. e.*, 70% is destroyed within the first 10 minutes and in 2 hours is down to 2 mg. per 100 cc. of blood. They obtained the same results in Eck fistula dogs and concluded that the process occurs within the blood stream, possibly through

¹ Folin, Berglund and Derrick, *J. Biol. Chem.*, 1924, **40**, 361.