

of ephedrine and epinephrine on the bronchioles in cocainized and normal animals. He concluded that ephedrine is both bronchoneurotropic and bronchomusculotropic.

Epinephrine, admittedly a sympathomimetic drug, produces an increase in blood lactic acid, blood sugar, and oxygen consumption. Ephedrine, whose mode of action is debated, produces effects comparable to those of epinephrine in (1) increasing the blood lactic acid and blood sugar, and (2) increasing the oxygen consumption and metabolic rate, hence is it not reasonable to assume that its action in these instances at least, is sympathomimetic?*

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Production of Renal Insufficiency by Surgical Procedure.

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This communication describes a method which has been developed to produce renal insufficiency by surgical procedure. Rabbits were used. The method is carried out by putting a loop of thread about one renal artery, when the animal is about 10 days old. This is done by placing a wire of 0.4 mm. diameter alongside the artery and tying a silk thread down upon the 2 together, and then withdrawing the wire. This leaves a loop about the artery of a diameter little larger than the artery. The artery soon grows up to this size and then any increase in the blood flow and size of that kidney is prevented. The other kidney overdevelops and so takes care of the increased renal demands of the animal. When the animal is 3 to 4 months of age, this large kidney is removed, leaving the animal with a small kidney, which cannot hypertrophy because of the tie about the artery. Too much time must not elapse before the second operation, lest atrophy of the small kidney supervene.

In this way any degree of kidney insufficiency can be produced. If the reduction in renal tissue be large (four-fifths) we find a rise in blood non protein nitrogen to 50-80 mg. per 100 cc. of blood, and a large volume of dilute urine is excreted. Greater reduction in kidney tissue results in higher blood non protein nitrogen (120-150

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mg. N per 100 cc.), symptoms like uremia, low plasma chlorides, and death.

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Disturbance of Carbohydrate Metabolism in Normal Dogs Injected with the Hypophyseal Growth Hormone.*

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Clinical and experimental data have been accumulating indicating a functional relationship between the anterior lobe of the hypophysis and the pancreatic islets. (See especially Houssay *et al.*) Due to the importance of such a relationship we think it justifiable to note briefly some remarkable findings bearing on this matter.

Two litters of purebred dachshund, one consisting of 2 males, the other of 2 females were secured. One male and one female were injected daily intraperitoneally with the anterior hypophyseal growth hormone,† free of gonad stimulating hormone, for a period of about 8 months. Skeletal growth and body weight greatly exceeded that of the litter-mate controls, the weight of the injected animals soon being double that of their controls. Skin overgrowth and folding were present in both but was particularly prominent in the male. After 8 months of daily injection the male developed polydipsia, polyuria, polyphagia and became emaciated. The animal suffered from skin infection with loss of hair. He was inactive and evidently sick. Fehling's test of the urine was strongly positive. Only a trace of albumin was present in the urine. Fasting blood sugar was 232 mg. %. When injection was stopped for one week the animal improved, but rapidly failed again on resumption of injection. At present, 4 months after cessation of injection, the animal still has sugar in the urine. The test for albumin is now negative. The volume of urine has decreased and the animal has almost completely recovered.

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† This was a further purified solution made from the acetone precipitate of the Evans-Simpson-Cornish extract. See Evans, Simpson and Cornish, *Proc. Soc. Exp. Biol. and Med.*, 1930, **27**, 101.