amounted to 74 per cent of M. L. D. Their body weight was constant or somewhat decreased two to three days after the injection, but in all cases it subsequently increased. There were no marked pathological lesions that could be attributed to the effect of the drug.

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The effect of ephedrine on digestive secretions.

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In our preliminary report,[1] a very brief mention was made of the action of ephedrine on the submaxillary gland. In this investigation, the whole system of digestive secretions was studied, including the salivary, gastric, pancreatic, bile and intestinal secretions.

Of nine anesthetized dogs whose Wharton's duct was exposed and canulated, ephedrine increased the submaxillary flow only in two cases, but had no effect in others. The increase in flow in both animals took place after atropinization when chorda stimulation was ineffective, an evidence that the parasympathetic system has no relation to the action of ephedrine. The dose given did not seem to play any part, for in one animal we injected as much as 40 mg. per kilo in contrast to an ordinary effective dose (1-2 mg. per kilo), and we failed to notice any change in secretion. The increase in submaxillary secretion in dogs by ephedrine is therefore rather an exception than a rule.

In non-anesthetized animals, however, an intravenous injection of large doses of ephedrine usually gives rise to increase of saliva, especially in dogs. Thus in one animal a dose of 25 mg. per kilo produced profuse salivation. When a dose slightly below the M. L. D. was administered, the increase in salivary flow was a constant feature.

[1] Chen, K. K., and Schmidt, Carl F., *J. Pharmacol. and Exper. Therap.*, 1924, xxiv, 339.

For gastric secretion, two dogs were operated for Heidenhain stomach pouch, and three for Pavlov pouch. By intravenous injection of ephedrine, there was slight increase of secretion in Pavlov dogs; but by subcutaneous injection of 5-10 mg. per kilo there was definite increase in both the Heidenhain and Pavlov dogs, not only in quantity but also in free and total hydrochloric acid. The increase was not so profuse as with histamine injection, or after a meal.

In connection with the study of the submaxillary secretion in anesthetized dogs, the pancreatic duct and the bile duct were both canulated at the same time. In practically all instances the pancreatic or the bile flow was not changed. We also made a pancreatic fistula in a healthy dog, and a pancreatico-bile fistula in another. After subcutaneous injection, there was increase in pancreatic secretion in some cases, but that increase was so close to control trials that it is hardly to be accepted as evidence of stimulation.

Two dogs were operated for Thiry-Vella fistula for the collection of the intestinal juice. After subcutaneous injection, the secretion did not start to flow. It is obvious that ephedrine has no action on the intestinal secretion.