

THE VASCULAR REACTION OF THE PILOCARPINIZED SUB-MAXILLARY GLAND TO HISTAMINE (ABSTRACT).—By MARGARET E. MACKEY, B. A., M. A., Department of Physiology, Dalhousie University, Halifax, N. S.

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It has been noted that under certain conditions the usual vaso-dilator effect produced by stimulation of the *chorda tympani* or by pilocarpin may be changed to a vaso-constriction. This has been explained in two ways: firstly that the chorda contains two kinds of fibres, vaso-dilators and vaso-constrictors. Secondly, that it is due to a reversal of function of the chorda giving in place of acceleration an inhibition of the blood flow. In the course of my investigations it was observed, that an increase of the blood flow after injecting histamine was reversed to a decrease, when histamine was injected following pilocarpin.

Cats and dogs were used, in which the blood flow and secretion were measured from a denervated submaxillary gland. Histamine in doses of 0.25 to 0.5 mg. for cats and 1 to 2 mg. for dogs were administered by intravenous injections.

My results may be summarized as follows:—

1. Intravenous injection of histamine phosphate (4 mg.) in the cat produces a great increase of the blood flow through the submaxillary gland with *chorda tympani* and sympathetic nerves cut. The same effect is observed in dogs with 1 mg. of histamine phosphate.

2. Intravenous injection of a small dose of pilocarpin, 4 mg. in a cat and 1 mg. in a dog, produces a moderate increase of the blood flow through the submaxillary gland of both animals.

3. Injection of histamine following pilocarpin in a cat causes a diminution in the blood flow through the submaxillary gland. The same reversal effect of pilocarpin on histamine can be evoked in the dog, but with much larger doses of pilocarpin.

4. Atropin restores the vaso-dilator action of histamine, both in a cat and a dog, but to a lesser degree than originally.

In conclusion I wish to thank Dr. Babkin for advice and criticism throughout this work.