



FIG. 1.

Conclusions: 1. The subcutaneous administration of tyramine hydrochloride to rabbits in amounts from 0.1 mgm. to 20.0 mgm. per kilo of body weight was followed by an increase in the number of red corpuscles per cubic millimeter in the circulating blood. 2. The repeated subcutaneous administration of a fixed amount of tyramine hydrochloride to rabbits was accompanied by a progressive increase in the number of red corpuscles per cubic millimeter in the circulating blood. The results in these experiments resemble those obtained when a secretin preparation was administered to rabbits (Downs and Eddy^{1, 2}).

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Amylase Studies in Dogs Sera Following Ligation of the Pancreatic Ducts.

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Numerous investigators have studied the amylase concentration in normal dog's blood stream using various methods. The methods most commonly used are: the starch iodide of Wohlgemuth; the change from starch to sugar as indicated by copper reduction; the

¹Downs, A. W., and Eddy, N. B., *Am. J. Physiol.*, xliii, 415.

²Downs, A. W., and Eddy, N. B., *Am. J. Physiol.*, xlvi, 209.

viscosimetric method of enzyme activity of Northrop and Hussey. Workers with these methods have not established one definite level in absolute units for the amylase concentration in the sera of healthy animals, but each has found that a normal range can be established with his own particular method.

Elman and McCaughan, using the viscosimetric method found that the normal concentration in dogs fell between 1.5 and 2.5 arbitrary units. Fasting or diet did not alter this range. The writers, using the same method with a more precise technique, found a normal range slightly higher, *i. e.*, 6 to 13 units. A unit being the amount of enzyme which would produce a 20% change in outflow time of a 7% starch solution in a modified Ostwald viscosimeter in one hour, at a pH of 7.6 and a temperature of $37.50^{\circ} \text{C.} \pm 0.02^{\circ}$.

In a series of experiments using 4 dogs with suitable controls, the amylase concentration was studied, after ligation of all the pancreatic ducts. In these experiments 2 dogs were used. Each was kept under the same conditions with respect to feeding and general care and given the same operative procedure except that all the pancreatic ducts in one were ligated. The dog to be used as the control animal was chosen by lot, the remaining dog being the one for the ligation. It was found that amylase concentration of the serum increased from 9 to 20 times normal following the operation in the dogs whose pancreatic ducts had been tied, to reach a maximum on the third day postoperative. Following this there was a gradual decline to approximately normal on the twelfth day after operation. The experiments covered periods varying from 14 to 90 days. Histological studies of all these animals have been made and will be reported subsequently.