

## 10718 P

**Simultaneous Observations of Pancreatic and Biliary Papillæ of Rabbit.**

JOHN AUER AND LLOYD D. SEAGER.

*From the Department of Pharmacology, St. Louis University School of Medicine, St. Louis, Mo.*

Since the pancreatic and biliary papillæ are widely separated anatomically in the rabbit, while these structures are closely connected in dog and man for example, the functional effects of various drugs on the biliary and pancreatic papillæ<sup>1</sup> may be studied with ease and certainty when each papilla is inspected by an observer at the same time.

All rabbits were narcotized by 300 mg of sodium barbital per kilo, injected subcutaneously; each papilla was inspected by one observer; only one drug was injected into each animal repeatedly, after intervals of not less than 30 minutes.

Crude secretin pH 7-8, 0.5 cc per kilo I.V., increased the sequential contraction<sup>1</sup> of both papillæ, but those observed in the pancreatic papilla were more frequent and persisted longer.

Purified secretin SI (Ivy's Method), 0.1 to 2 mg per kilo I. V., often increased the activity of both papillæ but the effect was more marked on the pancreatic than upon the biliary papilla; at times, the effect was limited to the pancreatic papilla.

Cholecystokinin (Ivy's A pH 1802 method), 8 mg per kilo I.V. has a similar effect to secretin S I.

Histamin hydrochloride, 10 to 200 $\gamma$  per kilo I.V., generally increased the activity of the bile papilla more than that of the pancreatic papilla; occasionally the opposite effect was noted.

Acetylcholin chloride, 5 to 100 $\gamma$  per kilo I.V. generally produced powerful contractions of the pancreatic papilla with little or no effect on the bile papilla.

Physostigmin sulphate, 150 $\gamma$  per kilo I. V. increased the frequency and strength of contractions in both papillæ. The pancreatic papilla often exhibited a tonic contraction of the neck lasting 5 to 8 minutes; this prolongation was less marked in the biliary papilla.

Arecolin hydrobromide, 5 to 20 $\gamma$  per kilo I.V. was generally more effective on the pancreatic papilla than upon the bile papilla; this increased action was largely limited to an increase in the rate, strength and duration of the neck contraction.

Epinephrin HCl, 50 to 100 $\gamma$  per kilo I.V. abolished the spontaneous or induced activity of both papillæ.

<sup>1</sup> Auer, J., and Seager, L. D., Proc. Soc. Exp. Biol. and Med., 1938, **39**, 542.

Atropin sulphate, 50 $\gamma$  per kilo I.V. stopped the activity of both papillæ.

In general, therefore, with the dosages noted, crude secretin, purified secretin, cholecystokinin, acetylcholin, and arecolin produce a greater effect on the pancreatic papilla of the rabbit than upon the biliary papilla; histamin affects the bile papilla more than the pancreatic papilla; and physostigmin increases the activity of both. Epinephrin and atropin abolish the activity of both papillæ.

### 10719 P

#### Observations on the Bovine Blood Picture in Health and Under Parasitism.

ELAINE DELAUNE. (Introduced by E. C. Faust.)

*From Louisiana State University.*

Observations made on 6 normal Jersey and Holstein calves between the ages of 2 days and 6 months showed an average of 8.70 million red cells, 10,674 white cells per cubic millimeter of blood and a differential leucocytic count as follows: Lymphocytes, 64.4%; monocytes, 12.2%; neutrophiles, 19.6%; eosinophiles, 3.3%.

Six counts made on each of 5 adult animals between the ages of 3 years and 6½ years, which were on range and which were considered to be normal from the standpoint of the absence of disease, revealed an average of 6.39 million red cells and 10,225 white cells per cubic millimeter of blood, with a differential leucocytic count of: Lymphocytes, 58.1%; monocytes, 8.0%; neutrophiles, 25.9%; eosinophiles, 7.0%.

The feeding of a pure nodularworm culture produced in calf No. 95 a sharp drop of 2½ million red cells 5 days after the administration of the larvæ, with an increase of 5000 in the total number of white cells caused by an increase above the previous range of 17% in the number of neutrophiles. These general changes were of constant occurrence, though not so sharply shown in the 6 individuals which had a mixed infection of hookworms (*Bunostomum phlebotomum*) and nodularworms (*Oesophagostomum radiatum*) as in the 2 animals with the pure nodularworm infection. The calves used in all these experiments were kept under controlled conditions preceding and during the period of infection. For each experimentally parasitized calf, a control calf was kept under similar conditions.