of this may be cited. The platelets of blood obtained from animals whose prothrombin has been drastically reduced by feeding dicumarol show no tendency to agglutinate in the absence of an anticoagulant. A typical experiment was as follows: Dicumarol was given to a rabbit daily until the prothrombin time was 7 minutes. Platelet counts were made using for one sample 3.8% sodium citrate as the diluent, and for the other 0.85% sodium chloride solution. The platelet count using saline solution was 250,000, and with sodium citrate solution was 280,000. No clumping in either was observed.

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Rate of Emptying of Biliary Tract Following Section of Vagi or of All Extrinsic Nerves.*

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Previous experiments have demonstrated that section of the specific nerves to the choledochoduodenal junction in the cat so retards emptying of the gall bladder that double the time is required to empty half its contents after a meal of egg-yolk. Subdiaphragmatic section of the left vagus has approximately the same effect but when the right vagus is cut the time is tripled. Section of all splanchnics produces little change.[1] The evidence suggests that severance of the right vagus removes not only the fibers which activate the gall bladder but those which release the sphincter of Oddi by inhibiting the local nerve net that maintains its tonus between meals.

Surprisingly, a continuation of these experiments has shown that severance of *both* vagi, or complete denervation of the biliary tract (vagi and splanchnics), has no retarding effect on the rate of emptying, *i.e.*, gall bladder and sphincter respond to hormone-producing food at least as fast as in the controls.

Since it is known that section of one vagus does not affect the rate of emptying of the stomach[2] but that section of both vagi relaxes the pyloric sphincter and decreases the initial time required for passage of food into the duodenum,[3] the rate of emptying of the denervated biliary tract may be explained on the basis that loss of vagus effect on the biliary musculature is compensated for by increased hormonal action resulting from faster discharge of hormone-producing food into the duodenum. Contrary to some earlier reports on section of nerves to the intestine[4] it can be stated that severance of all extrinsic nerves to the sphincter of Oddi, although resulting in destruction of preganglionic fibers, does not

TABLE I.
Rate of Emptying of Gall Bladder After Egg-yolk.

Nervous pathway interrupted	No. of animals	Initial tonus (min)	Oil enters cystic duct (min)	½ contents gall bladder discharged (min)	⅔ contents discharged (min)
Lipiodol controls (DuBois and Hunt, '32)	12	9	20	70	104
Both vagi	12	10	22	64	89
Vagi and splanchnics	11	9	26	68	87

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1 Johnson, Frank E., and Boyden, Edward A., *Surg., Gyn., and Obst.*, 1943, **76**, 395.

2 McSwiney, B. A., *Physiol. Rev.*, 1931, **11**, 478.

3 Meek, Walter J., and Herrin, Raymond C., *Am. J. Physiol.*, 1934, **109**, 231.

4 Evans, C. L., *Physiol. Rev.*, 1926, **6**, 358.

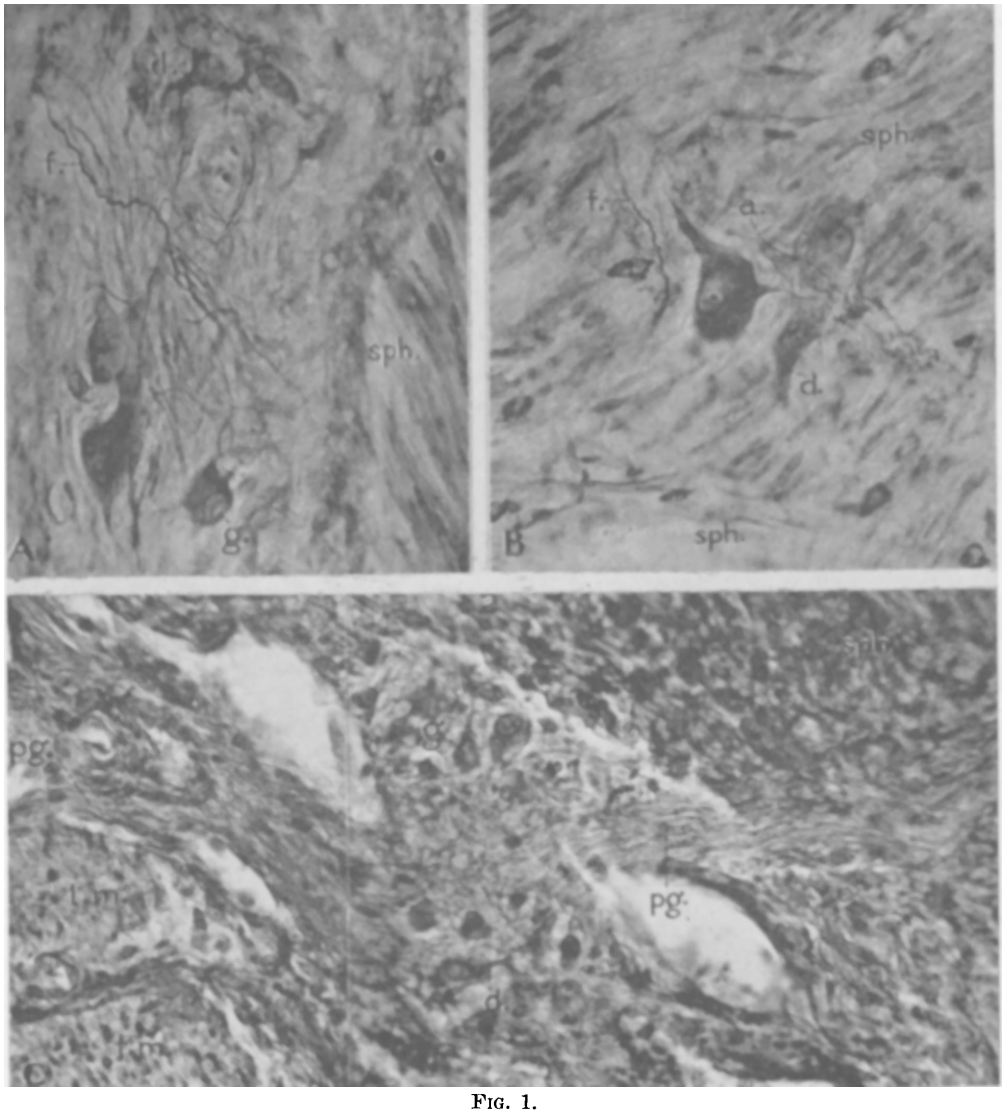

FIG. 1.

A, B. Photomicrographs of sphincter of Oddi (sph.) 11 days after peripheral connections of left celiac and central connections of right celiac ganglion have been severed (Cat No. 52; Bodian technic; × 352). Note undegenerated extrinsic nerve fibers (*f*) in vicinity of ganglion cells (*g*). *a*, *d*, axon and dendrites.

C. Photomicrograph of tangential section of major papilla 12 days after both vagi and peripheral connections of both celiac ganglia have been severed (Cat No. 72; Bodian technic; ×300). Note absence of extrinsic nerves but persistence of peripheral ganglion cells (*g*) and their postganglionic fibers (*p.g.*). The latter pass both to the tunica muscularis (*t.m.*) and to the sphincter muscle (*sph.*).

cause degeneration of the ganglion cells and postganglionic fibers (Fig. 1 C). This local nerve net may be presumed to be the apparatus which continues to respond to hormone-producing substances.[5] The accompanying figures, showing sections stained by the Bodian technic (C. Van Buskirk), are believed to be the first published photomicrographs of the intrinsic nerve net of the sphincter of Oddi.

[5] Boyden, Edward A., Bergh, George S., and Layne, John A., *Surgery*, 1943, **13**, 723.