Minnesota Section.

University of Minnesota, October 21, 1931.

5810

Gall Bladder Evacuation by Egg Yolk in Stomach.

JAMES E. MORGAN, LATHAN A. CRANDALL, JR., AND ANDREW C. IVY.

From the Department of Physiology and Pharmacology, Northwestern University Medical School.

Drewyer and Ivy[1] have reported that cholecystokinin can be extracted in relatively small quantities from the gastric mucosa. To determine whether this hormone could be liberated in effective amounts from the stomach alone, 5 dogs were prepared with pouches of the entire stomach and direct anastomoses between the esophagus and duodenum. Following visualization of the gall bladders of these animals by tetraiodophenolphthalein the stomachs were lavaged for from 2 to 3 hours with the yolks of 4 eggs. In 2 of the dogs the gall bladders were found to be empty after 2 hours of such lavage; this was repeated and confirmed in one of these. In the other 3 animals no emptying occurred, although the lavage was continued for 3 hours; a second experiment in one of these animals again showed no emptying. In the 3 dogs whose gall bladders did not empty from egg yolk in the isolated stomach, the administration of the yolk by mouth produced evacuation, although in one case the gall bladder still contained a small amount of dye after 6 hours.

The positive results in 2 of the dogs indicate that the presence of fat in the stomach alone may in some cases liberate into the blood stream an amount of cholecystokinin adequate to induce gall bladder contraction. The fact that the splanchnic nerve supply to these stomach pouches was intact (vagi severed) makes it possible that the emptying may have been due to a reflex set up by contact of the egg yolk with the gastric mucosa, but this possibility is considered rather remote.

[1] Drewyer, G. E., and Ivy, A. C., PROC. SOC. EXP. BIOL. AND MED., 1929, **27**, 186.