

**7. The Action of Gastro-intestinal Polypeptide Hormones on the Isolated Perfused Gastro-oesophageal Sphincter:** P. A. THOMAS, and R. J. EARLAM, Surgical Unit, the London Hospital.

An isolated preparation of the canine stomach and oesophagus perfused with autologous blood under controlled physiological conditions (Thomas and Earlam, 1972) has been used to study the direct effects of polypeptide gastro-intestinal hormones on the gastro-oesophageal sphincter. The hormones tested were gastrin I and II, cholecystokinin (CCK), caerulein, secretin, and glucagon. In the human, gastrin has already been shown to increase sphincter pressure and secretin to reduce it (Cohen and Lipshutz, 1971). The hormones were administered into an artery either as a bolus dose or as a continuous infusion. Bolus doses of gastrin I and II (1 µg.), CCK (10 Ivy units), and caerulein (12.5 µg.) all produced a rise in sphincter pressure as did a continuous intra-arterial infusion. These responses were abolished by atropine. Bolus doses of secretin (5 units) and glucagon (25 µg.) produced a fall in sphincter pressure. Continuous intra-arterial infusion had a similar effect. These results demonstrate that in this preparation the polypeptide gastro-intestinal hormones can be divided into two groups on the basis of their pharmacological action. The C-terminal related hormones produced a rise in sphincter pressure but secretin and glucagon reduced the pressure.

COHEN, S., and LIPSHUTZ, W. (1971), *J. clin. Invest.*, **50**, 449.

THOMAS, P. A., and EARLAM, R. J. (1972), *J. Eur. surg. Res.*, **4**, 357.