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Experimental Jejunal Ulcer.

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In the experimental study of the cause of jejunal ulcer following gastro-enterostomy, 3 factors have become quite evident as playing an etiological rôle; first, the irritating and digestive properties of the gastric contents; second, the motor drive of the stomach, and third, the possible greater susceptibility of the jejunal mucosa as compared to the duodenal mucosa to the first 2 factors.

We have devised an operation in the dog for the purpose of analysing the relative rôle played by these 3 factors. The operation consists in (1) dividing the duodenum about one inch below the pyloric sphincter and the jejunum about 12 inches below the ligament of Treitz; (2) then the distal end of the jejunum is anastomosed to the proximal end of the duodenum; (3) the distal end of the duodenum is closed and the proximal end of the jejunum is anastomosed (end-to-side) to the distal ileum about 15 inches from the ileo-cecal valve. The gastric chyme on being ejected strikes the first inch of the duodenum and then passes into the jejunum. There is no pancreatic juice or bile to play a rôle in neutralization, since these secretions are diverted to the lower ileum. The principle of the operation is that the acid factor is constant for both the duodenal

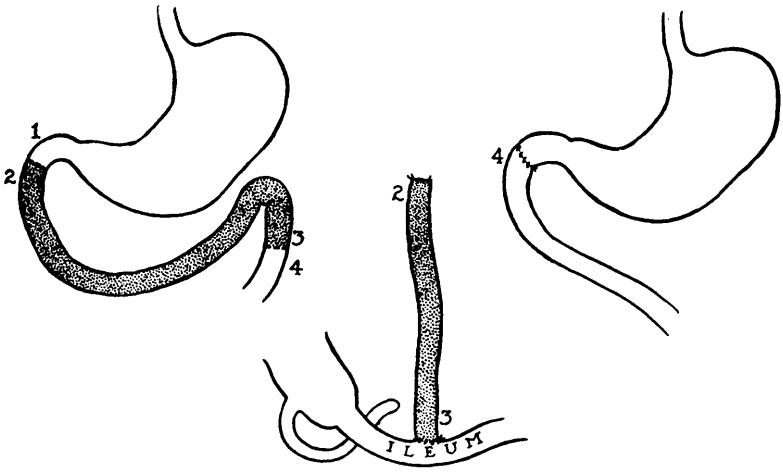

FIG. 1. Diagram of the operation performed.

and jejunal mucosa, and the motor drive of the stomach affects chiefly the duodenal mucosa. If an ulcer occurs only in the duodenal mucosa, it would mean that it was caused by the acid plus the motor drive factor. If an ulcer occurs in both the duodenal and jejunal mucosa, it would mean that the acid factor was the chief cause. If an ulcer occurs in the jejunal mucosa only, it would mean that its mucosa is more susceptible to the action of the gastric contents than the duodenal mucosa.

We have at the present time results on 4 dogs all of which died from a large perforating jejunal ulcer approximately 2 months after the operation. The dogs do very well for several weeks after the operation, after which they vomit intermittently, lose weight and eat only part of their food.

These results show quite decisively that the jejunal mucosa is more susceptible to the action of gastric contents than the duodenal mucosa.

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On the Non-Existence of a Hormone for Salivary Secretion.

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In view of the existence of both humoral and nervous mechanisms for the regulation of the secretory activity of the stomach and pancreas, it was decided to investigate the possibility of such dual control of the activity of the salivary glands. Although it has been tacitly assumed that no hormone mechanism for salivary secretion exists, the literature contains no definite statement on the point. Babkin[1] makes no mention of it in his monograph on the secretory activity of the digestive glands. Langley[2] and Malloizel[3] found that substances which caused a flow of saliva when applied to the tongue were without effect on the paralytic secretion by the submaxillary resulting from section of the chorda tympani nerve.

Two methods were used in this work. The mucous membrane of the mouth and tongue of several dogs was extracted with 0.4% HCl. The application of this reagent to the tongue normally produces a

[1] Babkin, B. P., *Die Äussere Sekretion der Verdauungsdrüsen*, Berlin, 1928.

[2] Langley, J. N., *J. Physiol.*, 1885, vi, 71.

[3] Malloizel, L., *J. de physiol. et de path. gen.*, 1902, iv, 651.