Operations for duodenal ulceration

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Procedures for the treatment of duodenal ulcers have the common aim of excluding acid from the duodenum. This is ing the secretory potential of the stomach or both. All proce - dures achieve this aim to some extent, but with varying degrees of morbidity and postoperative side e ff ects. There is now no role for acid-r educing operations in the routine management of peptic ulcer disease, but occasionally operations that involve gastrectomy have to be performed in the emergency situation. Gastrectomy-based procedures Gastrectomy in the form of either Billroth I (Figure 67.14) or Billroth II/Pólya (Figure 67.15) has been performed for - - - - -

Figure 67.14 Billroth I gastrectomy. The lower half of the stomach is removed and the cut stomach anastomosed to the /f_i rst part of the duodenum. Figure 67.15 Billroth II. Two-thirds of the stomach is removed, the duodenal stump is closed and the stomach anastomosed to the jejunum.

operations remove the gastric antrum, hence reducing acid. The Pólya gastrectomy diverts the gastric secretions away from the duodenum. There is no elective role for these procedures in the treatment of duodenal ulcer, but the safer Pólya procedure is occasionally needed in the management of complex ulcer disease presenting as an emergency . Gastrojejunostomy Gastrojejunostomy (Figure 67.16) was developed as an opera tion for duodenal ulcer, in which role it was very unsuccessful. Although reflux of alkali into the stomach allowed healing in some cases, the exposure of jejunal m ucosa to acid resulted in stomal ulceration. Gastroenterostomy , however, remains a commonly performed operation, usually to bypass malignant obstruction due to tumours in the distal stomach, duodenum or pancreas. This is performed through opening the lesser sac and performing an anastomosis between the most dependent part of the antrum and the first jejunal loop. An isoperistaltic anastomosis is most commonly performed. Vagotomy-based procedures The principle of the operation is that section of the vagus nerves, which are critically involved in the secretion of gastric acid, reduces the maximal acid output by approximately 50%. Truncal vagotomy (cutting the vagal verves at the lower oesophagus) was first introduced in the mid-twentieth century and, for many years, combined with a gastric drain age procedure, was the mainstay of treatment of duodenal ulceration (Figure 67.17). Because the vagal nerves are motor to the stomach, denervation of the antr opyloroduodenal segment results in gastric stasis in a substantial proportion of patients on whom truncal vagotomy alone is performed. The most popular drainage procedure was the Heineke–Mikulicz pyloroplasty (Figure 67.18). It is simple to perform and involves longitudinal division of the pyloric ring. The incision is closed transversely . Gastrojejunostomy (Figure 67.16 an alternative drainage procedure to pyloroplasty . In highly selective vagotomy , only the parietal cell mass of the stomach is denervated (Figure 67.19).

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