

Short Reports

Laparoscopic truncal vagotomy without drainage for the treatment of chronic duodenal ulcer

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Abstract

Four patients with chronic duodenal ulceration refractory to long term medical treatment were submitted to laparoscopic truncal vagotomy without drainage. No patient developed symptoms of gastric stasis or ulcer recurrence. The technique is described.

Introduction

With the widespread introduction of laparoscopic cholecystectomy interest has turned to the application of similar minimal access techniques to other abdominal operations. We report laparoscopic truncal vagotomy without drainage for the elective treatment of chronic duodenal ulceration.

Patients and Methods

Four patients, three men and one woman, with endoscopically proven chronic duodenal ulcer refractory to protracted medical treatment and without evidence of gastric outlet obstruction were operated on. Under general anaesthesia a wide bore orogastric tube was passed. After induction of pneumoperitoneum with Co₂, 10mm laparoscope with a video camera was introduced. Three further 10mm SurgiPorts were inserted as in the diagram (Fig 1). A 10mm grasping forceps used as retractor was inserted through Port two towards the oesophageal hiatus, passing behind the falciform ligament and elevating the left lobe of the liver. A grasping forceps was inserted through Port three to lift the phreno-oesophageal ligament. Using a dissecting forceps through Port four by blunt dissection on the anterior surface of the oesophagus the anterior vagal nerve fibres were identified cauterised and divided. The dissecting forceps in Port four was then replaced with a grasping forceps. This forceps was used to push the oesophagus and upper stomach to the left. Using a dissecting forceps or scissors through Port three the lesser omentum was divided high up at an avascular site. This opening was then extended up to the right side of the oesophagus dividing the hepatic branch of the anterior vagus. The right crus of the diaphragm was thus exposed. The tip of the grasping forceps in Port four was repositioned at the hiatus to push the oesophagus further to the left. The posterior vagus was identified just to the left of the right crus. The posterior vagus was then cauterised and divided. With the oesophagus mobilised close circumferential inspection was performed and any remaining nerve fibres cauterised. With haemostasis assured the ports were removed. The orogastric tube was replaced with a nasogastric tube. A nasogastric tube was left in situ overnight and removed the following morning. Fluids were commenced from day one and diet as tolerated from Day two.

Results

There were no complications. All patients tolerated a full diet from day two with no clinical evidence of gastric stasis. At four weeks all patients were free of pain at outpatient review and had resumed normal activity. They continue free from

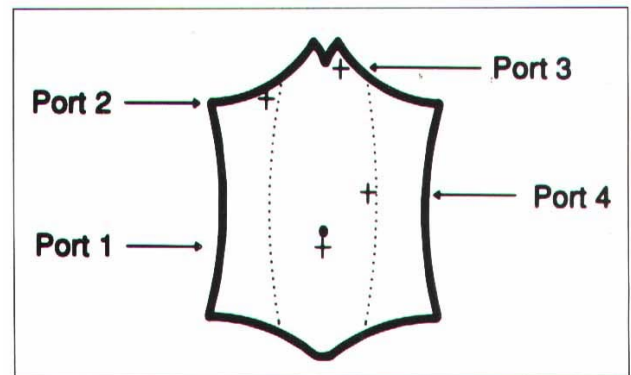


Figure 1

symptoms from ulcer pain or gastric outlet obstruction up to eight weeks following operation.

Discussion

Laparoscopic complete truncal vagotomy is feasible and safe. Early results show that symptomatic relief of ulcer pain can be achieved. Long term follow up and acid secretion studies will be performed.

The dogma of drainage after truncal vagotomy dates from the early studies of Dragstedt who noted gastric stasis in 30% of patients. His patients however suffered from severe complicated chronic ulceration and fibrotic stenosis contributed to gastric outlet obstruction.¹ During total oesophagectomy with gastric tube reconstruction total truncal vagotomy is inevitable. Although not exactly comparable, gastric stasis only rarely ensues if a pyloroplasty is not performed and if it does occur can be successfully treated by balloon dilatation.²

In this small series we cannot claim that symptomatic gastric stasis will not be a problem. We propose to deal with this problem should it arise by balloon dilatation of the pylorus. Truncal vagotomy and pyloric dilatation has already been proved to be successful in the management of chronic duodenal ulceration.^{3,4} Thompson and Galloway have shown that truncal vagotomy and intraoperative dilatation of the pylorus in selected patients resulted in gastric stasis in only two out of 101 patients.³ In a randomised trial Pringle et al confirmed this finding and showed that truncal vagotomy with intraoperative drainage is as effective as truncal vagotomy and pyloroplasty in preventing ulcer recurrence.⁴

This is the first report of a new minimal access operation for chronic duodenal ulceration which is feasible, safe and with

many potential advantages.

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References

- 1 Dragstedt LR, Camp EH. Follow up of gastric vagotomy alone in the treatment of peptic ulcer. *Gastroenterology* 1948; **11**: 460-5.
- 2 Bemelman WA, Brummelkamp WH, Bartelsman JF. Endoscopic balloon

dilation of the pylorus after esophagogastrostomy without a drainage procedure. *Surg Gynecol Obstet* 1990; 170: 424-6.

3. Thompson JD, Galloway JBW. Vagotomy and pyloric dilation in chronic duodenal ulcer. *BMJ* 1979; **1**: 1453-5.
- 4 Pringle R, Irving AD, Longrigg JN, Wisbey M. Randomized trial of truncal vagotomy with either pyloroplasty or pyloric dilatation in the surgical management of chronic duodenal ulcer. *BrJ Surg* 1983; **70**: 482-4.

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