

# Laparoscopic Subtotal Gastric Resection for Chronic Gastric Ulcers

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## ABSTRACT

**Objectives:** We analyzed our experience with the laparoscopic approach for treating benign gastric lesions.

**Methods:** Between June 1998 and June 2002, we performed 18 gastric resections with the laparoscopic approach for 7 pyloric stenoses, 8 recurrent duodenal ulcers, and 3 chronic gastric ulcers.

**Results:** In our series, we performed Billroth II laparoscopic distal gastrectomy with no morbidity and mortality.

**Conclusions:** Billroth II laparoscopic distal gastrectomy is safe in cases of benign gastric or duodenal lesions.

**Key Words:** Chronic gastric ulcer, Laparoscopic distal gastrectomy.

## INTRODUCTION

Laparoscopy has acquired an important place in abdominal surgery although its use in gastric disease is still in the initial stages. However, although Nissen fundoplication, esophagomyotomy, and cholecystectomy have matched the efficacy and safety of the traditional open counterparts, laparoscopic gastric resection is being adopted at a rather slower pace.<sup>1</sup> In fact in major surgery, the improvements are certainly slower than in other fields due to the learning curve. Undoubtedly, laparoscopic treatment for gastric malignancies should still be considered experimental and therefore restricted to a few experienced teams.<sup>2</sup> Nevertheless, the laparoscopic technique for benign gastroduodenal diseases has a higher potential for acceptance and reproducibility, even if it has not met with widespread enthusiasm in the international literature. For this reason, we have started to study the role of laparoscopic surgery in the treatment of gastric lesions with the intention of testing its use in the different aspects of the operation to improve the operation as a whole.

## METHODS

From June 1998 to June 2002, we performed 18 gastric resections with a totally laparoscopic approach. Patients comprised 11 males and 7 females with an average age of 68 years (range, 35 to 85). Preoperative indications included 7 pyloric stenoses, 8 recurrent duodenal ulcers in spite of medical treatment, and 3 chronic gastric ulcers. Preoperatively, all patients underwent blood tests, chest x-rays, electrocardiogram, upper gastrointestinal endoscopy coupled with endoscopic ultrasound (US), and 3 patients with gastric lesions underwent biopsies. All patients were required to give informed consent for the laparoscopic procedure and in general were admitted to the hospital the day before surgery.

All patients were operated on while under general anesthesia and in the lithotomy and 20° reverse Trendelenburg positions. After induction of anesthesia, a nasogastric tube was installed while the patient was in the operating room. The surgeon stood between the patient's legs with an assistant on each side. Generally, 2 monitors were more useful. In all patients, a Billroth II distal gastrectomy was

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performed by a totally laparoscopic route by using a 30° optical laparoscope, which gives a lateral view. One 5-mm and three 10-mm trocars were used. For the dissection, we used the Harmonic Scalpel Ultracision by Ethicon Endo-Surgery, and for gastrojejunostomy we used the Endo-GIA model ETS 45 Flex. We used a Pfannenstiel mini-laparotomy to remove the specimen.

## RESULTS

No mortality or morbidity was recorded in the present series. The mean duration of the operation was 110 minutes (range, 90 to 180), and loss of blood was unremarkable. The nasogastric tube was removed at 3 postoperative days. Bowel movements returned 2 days after surgery, and all patients began eating after 5 days. Altogether, the hospital stay lasted 8 days on the average.

## DISCUSSION

According to surgical guidelines and physiopathological knowledge, the search for less invasive treatment must always be based on quality of life not just the life expectancy of the patients.

The laparoscopic approach should not be seen as an end in itself but as a means of improving postoperative recovery. Laparoscopic gastric resections in this latter group are technically demanding and are limited to a few experienced centers. In addition, if laparoscopic partial gastrectomies have been sporadically adopted in the treatment of benign diseases,<sup>1</sup> laparoscopic surgery for gastric malignancies still arouses concerns and appears to be in an early developmental stage.<sup>3</sup> We believe 2 fundamental factors exist for the achievement of the laparoscopic method: the use of an ultrasound scalpel and maintaining anatomical references. Undoubtedly, laparoscopy must entirely reproduce open techniques and not entail significant differences in terms of postoperative digestive functional sequelae. To avoid lengthening the operation, it is

necessary to avoid frequently changing the operational field and to revert to open surgery as soon as the laparoscopic maneuvers become difficult.

Nevertheless, laparoscopic gastrectomies are still technically demanding, requiring both an experienced surgical team and costly, sophisticated equipment. Moreover, the impact of laparoscopy on patients' postoperative hospital stay has not resulted in a significantly shorter hospitalization, but rather a dramatically better quality of stay.<sup>4</sup>

## CONCLUSION

The popularity of minimally invasive techniques in the treatment of abdominal diseases is due to the limited visceral manipulation and the well-known advantages in terms of recovery, refeeding, walking, and other things. Laparoscopic gastrectomies are only performed occasionally in a few centers because they are long, complex procedures. In our experience, studying the possibility of using minimally invasive techniques confirms the ample opportunities for using them. However, we believe it is essential to improve each step of the operation from both an instrumental and a technical point of view. The economic impact of such procedures, however, still awaits further clarification.

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