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Vagotomy with Pyloroplasty or Antrectomy

A Comparison of Results in the Treatment of Duodenal Ulcer

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During the years 1970-73, 116 operations were performed for the relief of duodenal ulcer. Truncal vagotomy was done in all cases, and to this was added antrectomy in 92 cases and pyloroplasty in 24 cases. In the followup, three-fourths of the patients in both groups said they were satisfied with the result. There were four recurrences in the smaller pyloroplasty group. In this series, antrectomy with vagotomy appears to be the best operation for duodenal ulcer disease.

DURING the past several decades, there have been changes in the surgical treatment of peptic ulcer. More knowledge of the physiology of the stomach has given direction to these trends. During his many years of surgical practice, Dr. Laurence Fallis found the surgical treatment of peptic ulcer to be one of his chief interests. He was an early and strong advocate of vagotomy in the treatment of duodenal ulcer. When the trend was to remove an ever increasing amount of the stomach to reduce gastric acid secretion, he recommended combining vagotomy with resection of less than half of the stomach. During the past 20 years, the extensive subtotal gastric resection has nearly disappeared from the surgical scene and vagotomy with pyloroplasty has been popular. However, critical studies have shown that this more conservative procedure has not been ideal for the control of recurrent ulcer disease. The generally reported recurrence rate is 10-15% and this is not acceptable, at least in good risk patients. The combined operation of vagotomy and partial gastric resection or antrectomy appears to be better. Doctor Fallis recognized the value of this procedure and contributed to the development of the technic that has made it a safe and durable operation.

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There is voluminous literature on the subject of the surgical treatment of peptic ulcer, and we will not attempt even to summarize it. The purpose of this paper is to present our experience in a series of 116 operations for duodenal ulcer done in the years 1970-73. Although the numbers are not statistically significant, we have formed some tentative impressions as to the relative value of the two procedures we have used.

Pyloroplasty and vagotomy were done in 24 cases and a standard antrectomy and truncal vagotomy in 92 cases. All of the operations were done by one or the other of us and in almost every case, the other assisted. Consequently, there has been a high degree of uniformity in the surgical technic.

We selected the operative procedure for complicated duodenal ulcer disease on an individual basis, attempting to choose the procedure which would provide each patient with the best opportunity for cure of his disease with the lowest possible risk. With high risk patients and those patients who did not have advanced disease, it appeared that a physiological operation preserving the stomach would be ideal, and we performed a pyloroplasty and truncal vagotomy.

At first, we used the Heinke-Mikulicz type of pyloroplasty. A number of patients developed emptying problems and recurrent ulceration without any apparent decrease in the dumping and/or diarrhea incidence as compared with the patients having gastric resection. In particular, we had difficulties in those patients who had concomitant cholecystectomy with pyloroplasty and vagotomy. Reoperation on several of these patients demonstrated adherence of the duodenum and antrum to the inferior aspect of the liver, creating a kinking effect which interfered with the emptying of the antrum. We subsequently used the Finney or Jaboulay type of pyloroplasty with truncal vagotomy. The patients with postbulbar ulcerations did not do well with pyloroplasty and vagotomy. We feel that antrectomy and vagotomy is the procedure of choice in these cases.

A majority of the patients in this study had had chronic ulcer disease for a long time. Seventy-five percent of the pyloroplasty group and eighty-five percent of these who had antrectomy had had symptoms for more than one year. About half had had trouble for more than five years. Bleeding was the usual complication which was the indication for operation in patients with symptoms for less than one year.

Results

There was no surgical motality in either group. In the followup procedure, the patients were given a comprehensive questionnaire three months to two years after the operation. They were asked to report on the occurrence of individual symptoms, and to "grade" their postoperative result according to the following criteria which are modified from the classification of Visick.[4]

I. Excellent - No symptoms, signs or problems. No limitation of activity. Able to resume normal occupational duties. No limitations in dietary pattern. Satisfied with results of surgery.

II. Good - Satisfied with results of surgery. Few and occasional minor symptoms or problems. Able to resume normal occupational duties. Minor alterations in dietary pattern. No limitations of activities.

TABLE I
Functional Results (Visick)

Pyloroplasty & Vagotomy	Antrectomy & Vagotomy
(% of 25 cases)	(% of 92 cases)
I. Excellent 8%	31%
II. Good 68%	48%
III. Fair 24%	16%
IV. Poor 0	5%

III. Fair - Definite and frequent minor symptoms and problems. Alteration in dietary pattern. Alteration in activity level. Some incapacity in occupational duties. Some question about effectiveness of surgery.

IV. Poor - Constant and major symptoms and problems. Incapacity in occupational duties. Marked limitation in activity level. Marked alteration in dietary pattern. Unsatisfied with results of surgery.

The summary of the grading of functional results after the two types of operations is shown in Table I.

It was interesting to find that although a large number of patients continued to have one or more symptoms, more than three-fourths in each group were satisfied with the general postoperative result. Most of the patients had symptoms infrequently and the symptoms were episodic, depending on dietary habits. The dumping symptoms and diarrhea particularly fell into this group. Unrelenting difficulties which did not respond to treatment occurred in less than 8%.

There has been no objective evidence of recurrence of ulcer disease in the patients who had antrectomy and vagotomy. In those who had pyloroplasty and vagotomy, 4 out of 24 had recurrence. Two of these patients have had a second operation.

We have concluded that, in our hands, antrectomy with vagotomy is the best operation for duodenal ulcer in general. When the age of the patient or general conditions may increase the operative risk, we do a Finney or Jaboulay pyloroplasty and vagotomy.

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References

1. Cox AG: A comparison of symptoms after vagotomy with gastrojejunostomy and partial gastrectomy. *Brit Med J* **1**:288, 1968

2. Goligher JC et al: Comparison of different operations, Chapter 8 in *After Vagotomy*, edited by Williams JA and Cox HG, New York, Appleton Century Crofts, 1969

3. Herrington JL Jr.: Current trends in the treatment of duodenal ulcer. *Surg Gynec Obstet* **139**:87, 1974

4. Visick AH: The study of failures after gastrectomy. *Ann Royal Coll Surg* **3**:266, 1948