

Endoscopic Balloon Dilation as Treatment of Gastric Outlet Obstruction Secondary Peptic Ulcer Disease

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Summary: *Four patients with proven gastric outlet obstruction secondary to peptic ulcer disease were treated by endoscopic balloon dilatation using "through the scope" balloons. All of the patients remained asymptomatic follow-up the dilatation.*

We found balloon dilatation of upper digestive tract stricture to be a safe effective technique and offer an alternative to the surgical management of gastric outlet obstruction.

Key Words: Gastric outlet obstruction, pyloric stenosis, peptic ulcer, dilatation.

Benign peptic pyloric stenosis has traditionally been treated by surgery (1). Recently hydrostatic and pneumatic balloons for gastrointestinal strictures have been developed (2,3) and have been shown to be effective in the management of oesophageal strictures. Initial result with pyloric stenosis using wire guided balloon dilators under fluoroscopic control have been encouraging although up 26% of patients have been found to be unsuitable (4,5). Another report quoted encouraging early results in gastric outlet obstruction using the "through the scope" balloon, but information on patient selection lacking (5). In this study, we described our 4 patients results using balloon dilatation under direct vision.

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PATIENTS and METHODS

Four patients (one woman and three men) with benign pyloric stenosis were investigated in the gastroenterology unit. The median age of the patients was 58±3 years. All patients had presented to our gastroenterology unit as emergencies with persistent effortless vomiting. There was, in all patients, succussion splash indicating gastric outlet obstruction. All of the patients had lost weight before admission and had a history of dyspepsia. Gastric dilatation, outlet obstruction and barium retention were confirmed in ten patients using contrast radiography. All patients were treated by rehydration, nasogastric suction and intravenous fluids. The passage of a 12-mm endoscope through the obstruction was found to be impossible. No patient had any evidence of malignancy on endoscopic biopsy of the pyloric region.

As these patients were considered to be candidates for surgery, endoscopic dilatation was attempted in the first instance. Dilatation were performed as described before (6), under intravenous sedation using diazepam (Deva Farm Co. Turkey) 10mg and buscopan (Adeka Farmk Co. Turkey) 20 mg.

A 180 cm polyurethane catheter (TTS 12-15mm, Microvasive, Milford, Massachusetts, USA) was passed into the lumen of the pylorus and positioned across the stricture. The balloon was then inflated with a 10ml syringe. After the balloon was completely distended it was kept place for 3 min.

RESULTS

All patients tolerated the procedure well, experiencing no more apparent discomfort than with a routine endoscopy. The dilatation was completed such that a 12.8 mm endoscope (Olympus GIF XQ10 Olympus Optical Company, Tokyo, Japan) could be passed into the duodenum with ease. No patients had evidence of active duodenal ulceration. Symptoms of gastric outlet obstruction do not persist after treatment. The patients were discharged home on maintenance doses of H₂ blockers and on a normal diet. No complications related to the dilatation procedure were encountered in any of the patients studied.

Pyloric obstruction has been considered to be an absolute indication for surgery. Classically, the stenosed area is either resected, reoperated or bypassed.

Taylor has recently described a pyloric dilating balloon that fits over the endoscope (7), but the prerequisite for this treatment is that the stricture should be wide enough to admit the endoscope. The same results after balloon dilatation have been reported in adults with gastric outlet obstruction (2,4,8). Some difficulty in pushing the balloon through the pylorus has been experienced using this technique. Balloons that could pass through the biopsy channel of a therapeutic endoscope ("through the scope" balloons) have recently been developed. In patients with severe defor-

mity of the bulb, passage of the balloon through the stenosis may be difficult or impossible. The most recent development of a "through the scope" balloon that has a central lumen allowing the passage of a guide wire has made negotiation of these strictures easier.

The "through the scope" balloons are manufactured for single use only. However, they may be restorised by Gigasept (Sporizid, Schulke and Mayr Gimbt Nordersledt) immersed for reuse.

The period of dilatation in our series lasted for 3 min and was chosen arbitrarily at the start of the study. Early experience showed that "waisting" of the balloon by the stenosed pyloric channel occurred commonly. This "waisting" resolved within 2 min of the dilatation.

Our results show that the patients with severe pyloric stenosis can be treated successfully by balloon dilatation with excellent immediate and medium term results. Although our experience is still very small and no information is yet available about the possible risks of such a procedure, such as perforation and bleeding, we believe that future studies might increase the use of balloon dilatation in gastric outlet obstruction secondary to peptic ulcer disease.

This procedure is a safe and effective technique and offers an alternative to the surgical management of gastric outlet obstruction.

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