

### Botulinum Toxin for Refractory Postoperative Pyloric Spasm

In the majority of cases, postoperative gastric retention can be controlled by nasogastric drainage and drugs facilitating gastric emptying such as metoclopramide, dromperidone or cisapride. However, in some patients, persistent vomiting can delay the return to spontaneous oral nutrition. Jejunal or parenteral nutrition has been used in patients with refractory symptoms. Injection of botulinum toxin has been shown to be a simple and safe method of obtaining muscular relaxation. Since the first case report (1), the technique has been used successfully in the treatment of achalasia (2). We report here on two cases of intractable postoperative gastric retention associated with pyloric spasm, which were treated by intrapyloric circular injection of 80 U of botulinum toxin (Botox, Allergan Inc., Irvine, California, USA).

The first patient was an 80-year-old woman admitted for hematemesis due to a giant prepyloric ulcer. She underwent surgical hemostasis, completed by truncal vagotomy and pyloroplasty, which proved to be incomplete. Four weeks later, a return to normal nutrition was still unsuccessful in spite of conservative treatment with drugs facilitating gastric emptying. Upper gastrointestinal tract endoscopy revealed a narrow pylorus with no spontaneous opening, but allowing the passage of an endoscope. Enteral nutrition was provided via a nasojejunal catheter, followed by percutaneous endoscopic gastrostomy. Gastric stasis was unchanged after four more weeks. At this stage, four injections of 20 U each were given in the periphery of the pylorus. A barium series six days later demonstrated an easy passage through the pylorus (Figures 1, 2), and the patient resumed oral nutrition.

The second patient was a 78-year-old woman admitted for obstructive cholestasis due to a tumor of the head of the pancreas. She underwent a pylorus-preserving duodenopancreatectomy, with a posterior pancreaticogastric anastomosis and duodenojejunal anastomosis. Postoperatively, massive gastric dilation and stasis made nasojejunal nutrition necessary. Three weeks after surgery, a tight pylorospasm was assessed endoscopically. A balloon dilation was carried out without effect, and 80 U of botulinum toxin was injected as described above. Vomiting disappeared in the following days, and five days later, a barium series showed easy passage into the duodenum. The following day, the nasogastric drain was removed, and normal nutrition was resumed. After two months of follow-up, both patients were eating a normal diet and were free of any upper gastrointestinal symptoms.

These two observations open up the possibility of a new therapeutic approach for severe intractable pyloric spasm in the postoperative period. Controlled studies should be conducted to ascertain the value of botulinum toxin treatment in this indication.

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#### References

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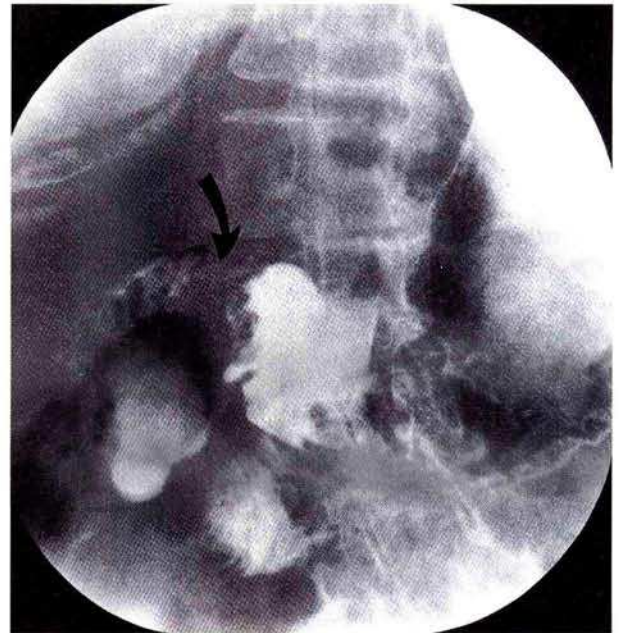


Figure 1: Spastic pylorus (arrow), with slight passage of barium.

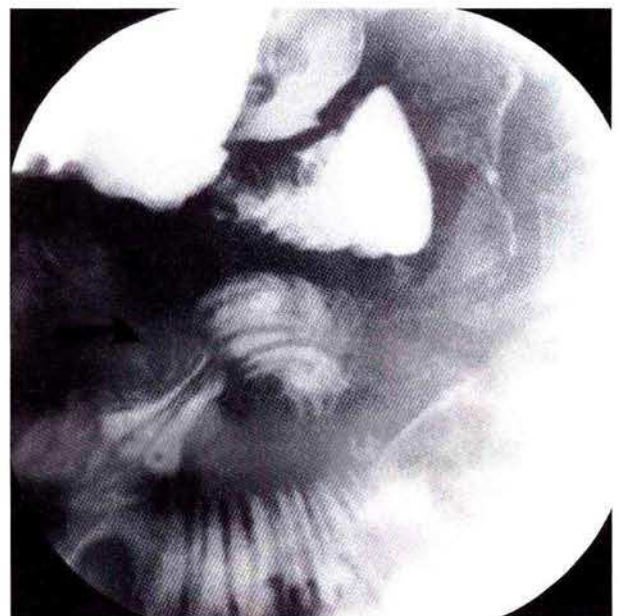


Figure 2: Easy passage of barium six days after intrapyloric injection of botulinum toxin.

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