Case Report
Étude de cas

DUPLICATION CYST OF THE ANTRUM: A CASE REPORT
Shailesh Gupta, BS; Danny Sleeman, MD; Basel Alsumait, MD; Lisa Abrams, MD

Gastrointestinal duplication is a rare congenital anomaly. Although it usually presents within the first few years of life, it may appear much later as described in this report of a 19-year-old man who had symptoms of gastric outlet obstruction. He was found to have a noncommunicating antral duplication cyst. The cyst was managed by antrectomy with excision of the cyst and several centimeters of duodenum. Microscopically the duplication cyst contained a mucosa, submucosa and muscularis. There was no evidence of ulceration or malignant cells. His recovery was smooth. The etiology, presentation and management of antral duplication cysts causing gastric outlet obstruction are discussed.

La duplication gastro-intestinale est une anomalie congénitale rare. Même si elle se manifeste habituellement au cours des premières années de la vie, elle peut faire son apparition plus tard, comme on le décrit dans ce compte rendu sur un homme âgé de 19 ans qui présentait des symptômes de sténose du défilé gastrique. On a découvert qu’il avait un kyste de duplication antrale non communicante. On a traité le problème en procédant à une antrectomie et à une excision du kyste et de plusieurs centimètres de duodénum. L’examen microscopique a révélé que le kyste de duplication contenait une muqueuse, une sous-muqueuse et une couche musculée. Il n’y avait aucun signe d’ulcération ou de présence de cellules malignes. Le patient s’est rétabli sans problème. Les auteurs discutent de l’étiologie, de la présentation et du traitement de kystes de duplication antrale causant une sténose du défilé gastrique.

From the Department of Surgery, University of Miami School of Medicine, Miami, Fla.
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Correspondence to: Dr. Danny Sleeman, Division of Trauma Services, Department of Surgery (D-40), PO Box 016960, Miami FL 33101, USA; tel. 305 585-5280; fax 305 324-7384
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The mass was believed to be either a duodenal duplication cyst or a choledochoanal cyst.

Based on the patient’s symptoms of gastric outlet obstruction and CT findings, we carried out an exploratory laparotomy the next day. A cystic mass measuring 9 cm was noted in the antrum of the stomach along the greater curvature (Fig. 2). Because of the size of the cyst, an antrectomy was performed along with excision of the antral duplication cyst and the first few centimetres of the duodenum. Reconstruction was carried out using the Billroth I technique. No other cysts or abnormalities were found. Postoperatively, the patient had an uncomplicated recovery.

Gross examination of the operative specimen (Fig. 3) showed at 9-cm noncommunicating cystic, distal antral mass along the greater curvature of the stomach. The cyst drained a collection of clear, mucinous fluid. Microscopic study demonstrated a mucosa, submucosa and muscularis. The mucosa was a variant of the gastric type with mucous pyloric-type glands. There were no signs of ulceration or malignancy.

**Discussion**

Enteric duplication is a particularly rare congenital entity in adults; the majority of cases occur in children. By definition, a gastrointestinal duplication must have a layer of smooth muscle, be located within or adjacent to part of the gastrointestinal tract and have a mucous membrane lining similar but not adjacent to the segment of the gastrointestinal tract. A number of theories have been propounded to explain the embryonic development of gastrointestinal duplications. These include abortive twinning, persistent embryologic diverticula that later develop into duplications, splitting of the notochord, aberrant recanalization of the lumen and hypoxic or traumatic events early in fetal development. No single theory adequately explains all types of duplications.

Duplications can be found anywhere in the alimentary tract from mouth to anus. They tend to be more common in females and are sometimes associated with other developmental abnormalities, including a second duplication elsewhere in the gastrointestinal tract. Although the ileum is the most common site, involvement of the stomach is the most uncommon, occurring in approximately 4% of all enteric duplications. In a composite review of 281 gastrointestinal duplications reported in 4 separate, comprehensive studies, only 21 (7.5%) were located in the stomach. Of those 21, only 1 was reported in the pylorus or distal antrum. The majority of stomach duplications are on the greater curvature, and are noncommunicating and cystic in nature. Although enteric duplications may contain any type of gastrointestinal mucosa, only gastric mucosa and ectopic pancreatic tissue are clinically significant; they may present with signs of ulceration and pancreatitis. In addition, rare cases of malignant disease within the cyst have been reported.

According to Hawkins, Lowery and Mullin there are 4 common presentations of gastric duplications: pain from distension of the cyst, intestinal obstruction, intestinal necrosis from pressure on mesenteric vessels, and ulceration and hemorrhage. The most common physical finding is a palpable mass. The diagnosis is suggested by the medical history, a palpable abdominal mass and radiologic detection of an epigastric mass. Although plain films and barium studies may yield the diagnosis, magnetic resonance imaging and CT are needed to assess the nature and size of the mass. The most conclusive evidence, however, is ultrasonographic demonstration of the cyst with a hypoechoic muscle layer and an inner echogenic mucosal layer.

Therapy for the duplication is surgical. Resection of the entire duplication with a rim of normal stomach is advised. Reconstruction can be performed using Billroth I and II procedures. This therapy is in contrast to the treatment of duodenal duplication, in which resection can jeopardize the ampulla of Vater, common bile duct or pancreatic duct. Most cystic duplications of the duodenum are treated by surgically creating a window between the duodenal lumen and the duplication cyst.

**References**


2. Hawkins ML, Lowery CH, Mullin JT.

**FIG. 2. Gastric duplication.**

**FIG. 3. Operative specimen.**

Radiology for the Surgeon
Chirurgie et radiologie

CASE 21. DIAGNOSIS

ENTEROCLYSIS — ADHESION CAUSING PARTIAL SMALL-BOWEL OBSTRUCTION

The answer to question “a” is enteroclysis, a double-contrast study of the small bowel following intubation of the duodenum. The diagnosis (question “b”) is adhesion (see Figure, arrow) causing partial obstruction.

In several centres, enteroclysis is now the primary radiologic technique used to investigate the small bowel. Accepted clinical indications for small-bowel radiography include the following: unexplained gastrointestinal bleeding, possible small-bowel tumour, small-bowel obstruction, Crohn’s disease and malabsorption.

Reference

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