

Symptomatic Heterotopic Pancreas of Stomach

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Heterotopic pancreas is the convergence of normal pancreatic tissue in an anatomically aberrant location lacking vascular, neuronal and anatomic continuity with the pancreas proper. Its incidence ranges from 0.5–5.6% in necropsy series and 0.2–0.5% in abdominal surgical series [1,2]. The most common locations of heterotopic pancreas in patients of all ages in the different series were the stomach, duodenum, and jejunum [3,4].

Heterotopic pancreas is an uncommon cause of gastrointestinal complaints characterized by epigastric pain, nausea, vomiting, and upper gastrointestinal bleeding [1–4]. Despite the development of modern diagnostic procedures such as endoscopic ultrasound and biopsy, it is still difficult to differentiate this from other pathologies, e.g., fibroma, leiomyoma, carcinoid or malignant tumors [5]. We report a case of stomach heterotopic pancreas in an adult female.

Patient Description

A 66 year old woman was admitted to our hospital with a 10 year history of upper abdominal pain and intermittent nausea, without experiencing weight loss, melena, or hematemesis. Fourteen years previously she had undergone sigmoid resection for adenocarcinoma (Dukes A), and 10 years prior to admission she had transabdominal hysterectomy due to multiple leiomyomas.

Physical examination was normal and all laboratory blood test were within normal limits. Gastroscopy revealed a 1.5 cm tumor in the posterior wall of the gastric antrum. Endoscopic ultrasound visualized a submucosal tumor of 1.7 x 2.5 cm that infiltrated the muscularis propria. The biopsy samples showed normal antral mucosa. Tumor markers were nor-

mal. The patient was referred to surgery.

The abdomen was explored through a midline incision, and a mass in the prepyloric antrum of the stomach was palpated. Gastrotomy was performed and the tumor was excised with the overlying mucosa. Frozen section revealed heterotopic pancreas with no signs of malignancy. The postoperative course was uneventful.

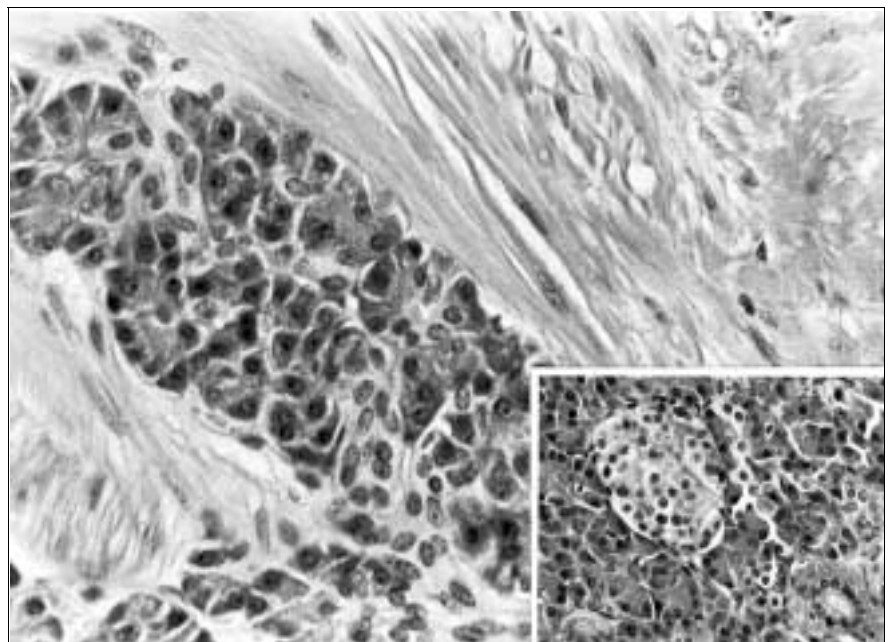
The pathologic specimen contained a fragment of gastric body wall with a centrally located nodule 2 x 1.5 x 1.5 cm in size. Histologically, the mass was composed of normal pancreatic acini, ducts, multiple islets, and occasional Brunner-type glands. The heterotopic pancreas tissue was seen in the submucosa, although it mostly occupied the muscle coat with minimal extension to the serosal

layer [Figure]. Ten months after the operation, the patient was free of symptoms.

Comment

The first case of heterotopic pancreas was reported by Schultz in 1729, but the first histologic confirmation was described by Klob in 1859 [1]. The prevalence of this entity ranges from 0.5 to 5.6% in necropsy series [1,2]. The lesion occurs in all age groups and is two to five times more prevalent in men than in women [3,4]. The most common sites are the stomach, duodenum, and jejunum, in up to 70% of all cases. Barbosa et al. [3] found stomach (25.5%), duodenum (27.7%), and jejunum (15.9%) to be the most frequent locations followed by Meckel's diverticulum (5.3%) and the ileum (2.8%).

There have been several reports of



Deep extension of the pancreatic acini into the muscularis propria (Hematoxylin & eosin x 40). Inset: Islet of Langerhans is seen in the center and few ducts in the lower field (Hematoxylin & eosin x 40).

unusual locations of heterotopic pancreas, such as the lungs, gallbladder, spleen, and papilla of Vater. Of lesions found in the stomach 85–95% are located in the antrum and are within 5–6 cm from the pylorus [1–3].

Most cases of heterotopic pancreas are asymptomatic, but non-specific gastrointestinal symptoms have been described in 30–40% of cases [3]. Most patients complain of epigastric pain, nausea, vomiting, and gastrointestinal bleeding. Complications are similar to those that occur in the pancreas itself and include acute pancreatitis, pancreatic cancer, insulinomas, gastrinomas and cystic degeneration [4,5].

Asymptomatic cases of heterotopic pancreas are seldom recognized at a preoperative stage and are usually discovered during surgery. Preoperative diagnostic studies include upper gastrointestinal series, gastroduodenoscopy, computerized tomography and endoscopic ultrasound. Gastroduodenoscopy is an indispensable tool for the investigation of patients with upper gastrointestinal symptoms, however it is generally difficult to produce an accurate

endoscopic diagnosis of submucosal tumors such as heterotopic pancreas because biopsy specimens often fail to include the tumor tissue beneath the normal mucosa. Despite its characteristic features such as central umbilication in the tumor, this condition is difficult to diagnose endoscopically, because in tumors of less than 1.5 cm that umbilication is often absent. Endoscopic ultrasound is helpful for detecting small submucosal tumors (< 2 cm), but it is not specific and cannot exclude other pathologies, such as carcinoid, fibroma, eosinophilic granuloma or leiomyoma [5].

Surgical exploration is required for a definitive diagnosis and to exclude neoplastic lesion for symptomatic patients [2]. When the lesion appears benign, local excision with confirmatory frozen section is the treatment of choice [2]. However, in cases of malignancy or when the diagnosis is uncertain, more formal gastric resection is mandatory. Similarly, in cases of heterotopic pancreas found incidentally, it is advisable to resect intraoperatively to avoid late complications and a second operation. In cases of a definitive and certain diag-

nosis, asymptomatic patients should remain under observation since the risk of malignant changes is no greater in heterotopic pancreas than in the pancreas itself [2,3,5].

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