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Heterotopic Pancreas of the Stomach: Report of a Case and Review of the Literature

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ABSTRACT

We herein report a 46-year-old female adult complaining of intermittent epigastralgia and dyspepsia lasting for six months before admission to our hospital. UGI-endoscopy revealed a small doughnut-like gastric polypoid lesion located at the antrum, greater curvature side and a heterotopic pancreas was initially impressed. Double contrast UGI-series showed that a 2.0 cm nodule with a small central retention of barium on the greater curvature of the antrum. Endoscopic pinch biopsy of the nodule showed large lymphoid follicles in the lamina propria and neither pancreatic tissue nor malignancy was seen. After partial gastrectomy and gastroplasty, the submucosal lesion measuring about 1. 2 cm x 1.2 cm x 0.8 cm was proved microscopically to be a heterotopic pancreas of the stomach.

key words: gastric polypoid lesion, heterotopic pancreas

Heterotopic pancreas or aberrant pancreas is defined as pancreatic tissue outside its normal location and having no anatomic or vascular connection with the pancreas proper. Hetrotopic pancreatic tissue was first described by Jean schultz in 1727. The first histologic studies were made by klob in 1859. The reported incidence of heterotopic pancreas ranging from 0.55 to 13. 7% at autopsy. Barbosa et al. estimated that heterotopic tissue was encountered in about one in every 500 operations in the upper abdomen. The most common locations are in the stomach, duodenum, and jejunum. Other rarely reported location of heterotopic pancreas include gall bladder, common bile duct, liver, spleen, transverse colon, Meckel's diverticulum, mediastinum, esophagus and umbilicus. We report herein a case of typical manifestion of heterotopic pancreas in the stomach under UGI-endoscopic and UGI series radiographic examination.

CASE REPORT

A 46-year-old women presented to our hospital with the complaint of epigastric fullness,

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dull pain and belching off and on for about six months. She described no body weight loss and no history of UGI-bleeding before. Her laboratory data including complete cell count and biochemical examination were all within normal limits. Initial endoscopy was performed and a small doughnut shaped submucosal lesion (fig. 1) at the greater curvature of antrum was found.

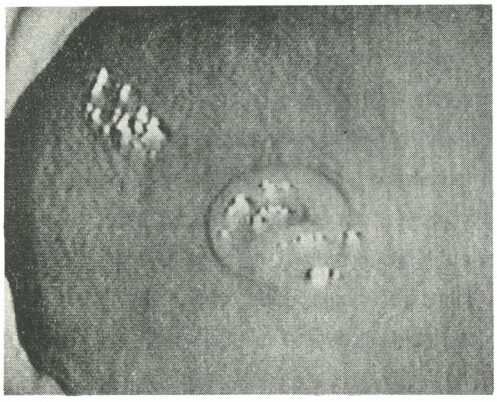

Fig. 1 A small doughnut shaped submucosal lesion at the greater curvature of antrum was seen endscopically.

Heterotopic pancreas or inflammatory fibroid polyp were considered and endoscopic pinch biopsy was done at that time. Besides, double contrast UGI series was performed two days later and showed a 2.0 cm x 1.0 cm nodular filling defect with smooth surface and a central depression at the greater curvature of antrum on the filling film. (fig. 2) Endoscopic pinch biopsy of the submucosal lesion showed several large lymphoid follicles in the lamina propria and neither pancreatic tissue nor malignancy was seen. Because the patient complained of intermittent dyspepsia for six months and the symptom not improved apparently after medication. Moreover, we didn't know the nature of the submucosal lesion even after the endoscopic pinch biopsy. Hence the patient was suggested to receive surgical excision of the submucosal lesion. Ths surgical specimen composed of a small central umbilicated polypoid lesion measuring about 1.2 cm x 1.2 cm x 0.8 cm in

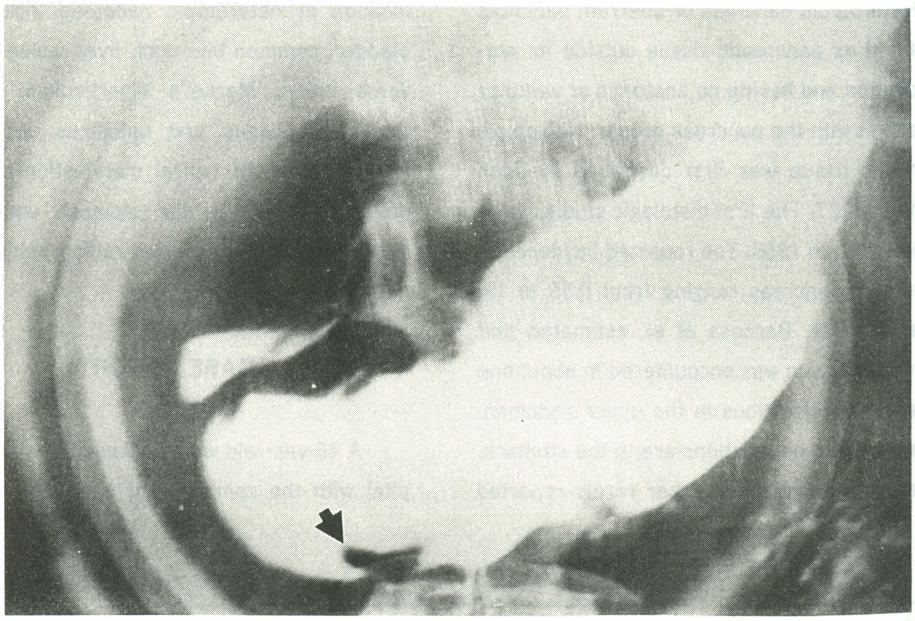

Fig. 2 A 2.0cm × 1.0cm nodular filling defect with smooth surface and central depression at the greater curvature of antrum (arrow) was proved by UGI series barium study.

Fig. 3 The polypoid lesion is composed of pancreatic acini and dilated ducts in the submucosa. There is a characteristic central umbilicated area on the surface of the polyp. (HE stain, original magnification × 7.5)

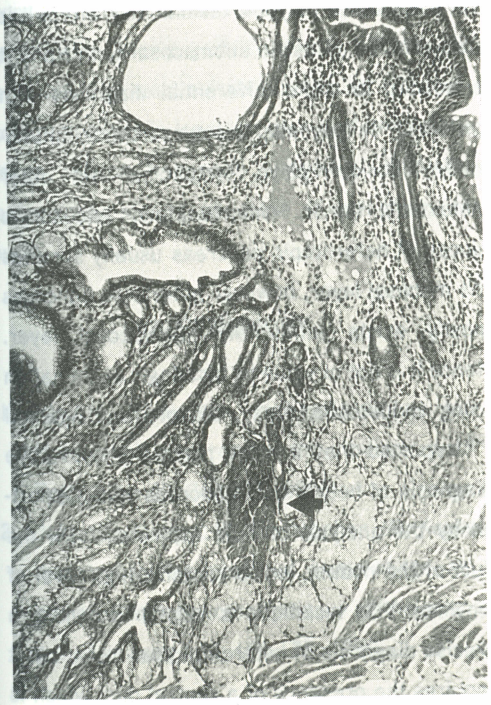

Fig. 4 Pancreatis acini is present in clusters in the submucosa (arrow) (HE stain, original magnification 100×)

size. Microscopically, it shows heterotopic pancreatic tissue composed of pancreatic acini and ducts in clusters in the antral mucosa, submucosa, and between the muscle bundles. Some of the ducts are dilated. In addition, there is smooth muscle hypertrophy adjacent to the ectopic tissue. (fig 3, 4) After resecting the heterotopic pancreas, the symptom of dyspepsia disappeared three months after discharge.

DISCUSSION

The histogenesis of heterotopic pancreas of the stomach is supposed to two theories. One is development from immigrated fetal pancreatic tissue, and the other is development from primitive gastric mucosal epithelium following penetration into the submucosa with subsequent erroneous differentiation into pancreatic tissue[1]. The histological classifaction of heter-

Table 1.Heinrich's classification

type Ⅰ: consisting of acinar cells, ducts and Langerhans'islets
type Ⅱ: consisting of acinar cellsand ducts
type Ⅲ: consisting of ducts

Table 2.Clarke's clssification

type Ⅰ: aberrant pancreatic tissue containing pancreatisc acini
type Ⅱ: abenomyoma, composed of smooth muscle tissue, undifferentiated acini and Brunner's glands
type Ⅲ: undifferentiated pancreas and all acini not typically pancreatic

otopic pancreas was described by Heinrich (table Ⅰ)[1] and Clarke (table 2)[2]. In the past studies, histological type of heterotopic pancreas were frequently found to be Heinrich's type Ⅱ, type Ⅰ and type Ⅲ in sequence. As the ectopic pancreatic tissue was composed of pancreatic acini and duct only microscopically in our patient; therefore, it is classified into Heinrich's type Ⅱ. Histological differentiation between heterotopic pancreas of Heinrich's type Ⅲ and gastritis cystica profunda due to prolong gastric mucosal inflammation must be difficult. The lesion of heterotopic pancreas of the stomach is predominantly in the submucosa of the antrum and manifests as sessile, polypoid or nipplelike umbilicated nubbins[3].

Heterotopic pancreas is found in every different age groups, but is rarely seen in children. Mostly, it is encountered in the fourth and fifth decades of life. The incidence of the lesion is slightly greater in male than in female patients[3]. The clinical symptoms and signs of hetertopic pancreas are attributed to its location. Presented symptoms and signs included epigastric pain, hiccup, belching, bloating, vomiting, postprandial indigestion, hematemesis, melana, body wight loss. Severe complications are rare but pyloric obstruction, obstruction of common bile duct, intestinal obstruction, massive G-I tract bleeding, inflammation cysts and malignancy have been described[4-9].

Preoperative definite diagnosis of heterotopic pancreas seemed to be difficult if it is not manifested as a small, sharply marginated, central umbilicated polypoid lesion. Most often, it is presented as a sessile submucosal tumor and it is needed to make differential diagnosis with carcinoid, leiomyoma, leiomyosarcoma, inflammately fibrioid polyp, lymphoma and other metastatic tumor. Unfortunately, endoscopic biopsy of heterotopic pancreas usually samples the mucosal layer, however hetertopic pancreas mostly exists within the submucosal layer. Hence it is not of value by histologic examination using endoscopic biopsy. Gilmore and Agarwal [10] reported that a more precise presumptive diagnosis of heterotopic pancreas was supported by the analysis of fluid aspirated from the duct of the nodule, which contains high level of amylase. This technique is helpful in making a precise diagnosis of heterotopic pancreas, but it requires the presence of a central duct which is opening to the gastric lumen. However, the central duct of heterotopic pancreas is not visual-

ized in many cases. Other practical diagnostic method of submucosal tumor is endoscopic ultrasonography. It showed an intermediate echogram tumor located at the submucosa and muscle layer; however, these findings are not specific to heterotopic pancreas. Teixeira and Haruma [11] presented a new method to obtain a histologic diagnosis by injecting ethanol to the tumor site to create an artificial ulcer. This faciliated the removal of endoscopic hiopsy specimens from the submucosal layer so that histologic examination could comfirm the presence of heterotopic pancreatic tissue.

In conclusion, endoscopic picture of heterotopic pancreas may expressed as an central umbilicated polypoid lesion with normal gastric mucosal surface. However, there are usually a lot of inflammatory cells and lymphoid follicles above ectopic pancreatic tissue in the lamina propria. Hence there may be some factors resulting in chronic gastritis due to heterotopic pancreas. The most suitable treatment of heterotopic pancreas is local excision and immediate frozen section has been suggested. Subtotal gastrectomy should be done if malignany is found.

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胃之異位性胰臟：一病例報告及文獻回顧

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本文報告一例四十六歲女性，因間歇性上腹不適及消化不良持續六個月以上而至本院求診，經上消化道內視鏡檢查，發現在胃前庭之大彎處有一甜甜圈樣息肉狀之病兆，最初診斷懷疑爲胃之異位性胰臟，且同時接受上消化道攝影檢查也發現在胃前庭之大彎處有一約二公分左右之小結節，並且病兆中央有少許鋇劑殘留。在胃鏡下做切片檢查後發現在黏膜固有層中有數個淋巴濾泡，並沒有胰臟組織或惡性變化。因爲病人的臨床症狀持續存在，所以接受手術切除該息肉樣之病兆，而這個中央凹陷息肉狀之病兆測量約爲 1.2 公分×1.2 公分×0.8 公分，同時經病理檢查證後，實爲胃之異位性胰臟。

關鍵語：胃息肉狀病兆，異位性胰臟

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