CASE REPORT

Ectopic pancreatic rest in the stomach

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Introduction

Ectopic pancreas (EP) also known as the heterotopic pancreas, aberrant pancreas or pancreatic rest is relatively a rare development anomaly. It is defined as pancreatic tissue that lacks anatomical or vascular continuity with the pancreatic gland. EP was first described in the 18th century by Schultz but confirmed by Klob histologically a century later [1]. Misplaced pancreatic tissue during gut rotation or metaplasia of pancreatic endodermal tissue during development are among the few theories discussed at present on the origin of EP [2]. Incidence of EP at autopsy is in a wide range of 0.5 – 13.7% [3]. It is most commonly found in the stomach, duodenum and the jejunum. The rest of the gastrointestinal tract (GIT) are also possible sites [2]. Rarely EP is found in the mediastinum, lung and brain [4].

Mostly asymptomatic, it may present with dyspeptic symptoms and abdominal discomfort. EP is occasionally associated with gastric outlet obstruction, GIT bleeding, pancreatitis and rarely adenocarcinoma [2, 5]. Upper GI endoscopy (UGIE) would classically reveal a subepithelial lesion (SEL) with normal overlying mucosa, which would at times demonstrate a central umbilication, denoting a pancreatic duct opening. Imaging modalities like contrast-enhanced CT (CECT) and MRI render limited assistance in diagnosing EP. Punch biopsy at UGIE is generally non-diagnostic, yet endoscopic ultrasound (EUS) and guided fine needle aspiration biopsy (EUS-FNAB) or core biopsy may demonstrate EP preoperatively. Surgical excision with a minimum margin is advocated for diagnosis and eliminate the premalignant potential of EP. No further problems are anticipated following complete excision.

Case presentation

Our patient was a 27-year-old male, who was previously healthy and of average built. He presented with dyspeptic symptoms for 9 months duration without any red flag signs. He was already using proton pump inhibitors (PPI) on regular basis but his symptoms had prevailed. An UGIE showed a

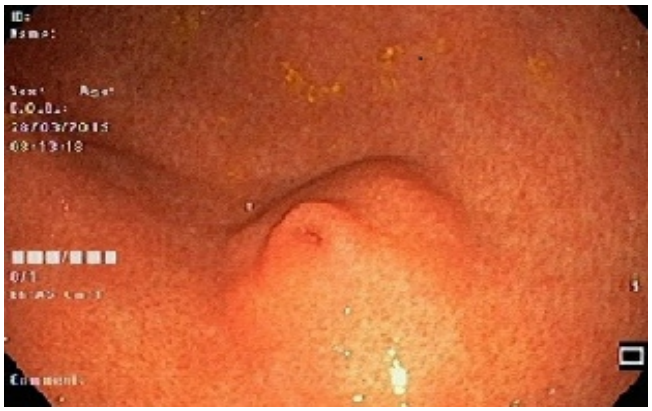

Figure 1. UGIE showing a SEL with central umbilication. Note background gastritis.

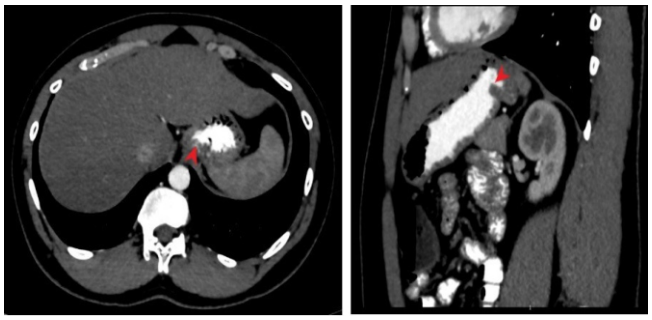

Figure 2. CECT with oral and intravenous contrast. Arrowheads in axial and sagittal sections point to the SEL

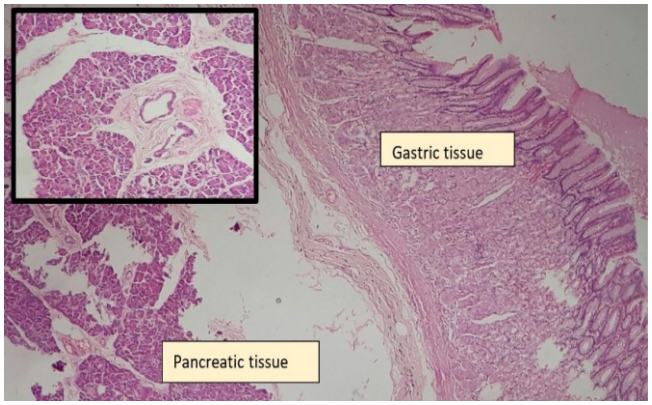

Figure 3. Organized mature pancreatic tissue in the gastric wall. H&E 10 x 4. Insert: Pancreatic acini arranged around ducts H & E 10 x 20

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SEL with central umbilication on the greater curvature of the stomach, 15cm from the pylorus (Figure 1).

A biopsy was not attempted but an ultrasound scan (USS) and a CECT of the abdomen were planned with a working diagnosis of a Gastro-Intestinal Stromal Tumour (GIST), a common SEL. CECT showed a 1.8 x 1.7 x 1.2cm oval-shaped solid mass in the greater curvature of the stomach. The slow heterogeneous enhancing pattern was noted suggestive of a GIST, GIT schwannoma or a leiomyoma (Figure 2). EUS and MRI were unavailable.

Due to equivocal radiological data and unavailability of EUS-FNAB, surgical excision was planned. India ink was injected to the SEL, 1 week before the surgery for external identification of lesion during the procedure. Laparoscopic exploration was undertaken where a wedge resection of the dyed lesion was made. The peritoneal survey was normal otherwise. The patient had an unremarkable recovery period and was discharged on postoperative day 2. Histopathology showed unencapsulated pancreatic tissue organized into lobules comprising acini and ducts with scattered islets of Langerhan, distributed through the stomach wall (Figure 3). No pathology was identified in the pancreatic tissue. The lesion was complete excised.

Discussion

Pathologic classification of EP was formed by Heinrich in 1909. A modification of this by Gaspar-Fuentes (1973) is currently in use (Table 1). According to the classification, this patient belongs to Type 1. Pathologies associated with the orthotopic pancreas can occur within EP as well [2, 5].

The endoscopic appearances were of a benign gastric tumour. Possible diagnoses of a GIST, leiomyoma or EP can be differentiated by non-invasive methods (Table 2). EUS and EUS-FNAB are sensitive methods of diagnosis which were unavailable for this patient.

Table 1. Histopathological types of EP

	Heinrich	Gaspar-Fuentes
Type 1	Consists of all components of pancreatic tissue (acini, ducts and islet cells)	Same
Type 2	Acini and ducts only, no islet cells	Ducts only
Type 3	Ducts only	Acini only (exocrine)
Type 4	-	Islet cells only (endocrine)

Table 2. Imaging features of EP and common SELs of GIT

	This lesion (EP)	GIST	Lipoma
USS	Not detected	Iso-hypo echoic	Hyper-iso-hypoechoic
CECT	Hypo-vascular (Low enhancing)	Hyper-vascular	Soft tissue density lesion
MRI	No data		
T1		Low	High
T2		High	High

EP of GIT is diagnosed incidentally in the majority of cases during endoscopy or surgery for other indications [6]. The main symptom of EP is pain and is thought to be due to tissue irritation by pancreatic secretions. This patient had clinical features of gastritis and was confirmed endoscopically. Symptomatic EP should be excised. Current literature advocates excision in asymptomatic, incidentally found cases as well to avoid future complications [6].

All authors disclose no conflict of interest. The study was conducted in accordance with the ethical standards of the relevant institutional or national ethics committee and the Helsinki Declaration of 1975, as revised in 2000.

References

1. Klob L. Pancreas accesorium. Zeitschrift der Kaiserl. Konigl. Gesellschaft der Aerzte zu Wien. 1859;15:732.
2. Rezvani M, Menias C, Sandrasegaran K, Olpin JD, Elsayes KM, Shaaban AM. Heterotopic pancreas: Histopathologic features, imaging findings, and complications. Radiographics. 2017 Mar 1;37(2):484–99. https://doi.org/10.1148/rg.2017160091
3. Yong L, Shi M-Y, Tu T-C, Wong J-U. Heterotopic pancreas involved muscularis propria mimicking mesenchymal tumor in stomach. J Surg Case Reports. 2019 Feb 1;2019(2). https://doi.org/10.1093/jscr/rjz045
4. Subasinghe D, Sivaganesh S, Perera N, Samarasekera D N. Gastric fundal heterotopic pancreas mimicking a gastrointestinal stromal tumour (GIST): A case report and a brief review. BMC Res Notes. 2016;9(1):185. https://doi.org/10.1186/s13104-016-1995-5
5. Emerson L, Layfield LJ, Rohr LR, Dayton MT. Adenocarcinoma arising in association with gastric heterotopic pancreas: A case report and review of the literature. J Surg Oncol. 2004;87(1):53–7. https://doi.org/10.1002/jso.20087
6. Papaziogas B, Koutelidakis I, Tsiaousis P, Panagiotopoulou K, Paraskevas G, Argiriadou H, et al. Carcinoma developing in ectopic pancreatic tissue in the stomach: a case report. Cases J. 2008;1(1):1–6. https://doi.org/10.1186/1757-1626-1-249

Learning Points:

- EP is a rare developmental anomaly which is usually found incidentally.
- It is best excised to avoid complications.