Pancreatic Rest

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Introduction

Ectopic pancreatic tissue or heterotopic pancreatic tissue or pancreatic rest may occur from displacement of small amounts of pancreas during embryonic development, resulting in the formation of a nodule which is independent of the pancreas. Ectopic pancreatic tissue is relatively common on careful histologic examination (1-14% of autopsy cases), but typically it is not of clinical significance. It is usually seen in the stomach, duodenum, and jejunum, but foci of pancreatic tissue have been reported throughout the gastrointestinal tract. Infrequently, it may lead to pancreatitis or pancreatic cancer.

Case Report

A seventeen year old female resident of Peshawar (Pakistan) presented with complaints of severe progressive epigastric pain, non-radiating, along with nausea and vomiting for 3 months. She had no history of drug intake or ischemic heart disease, tuberculosis contact. Her past medical records showed an appendicectomy four years back. On physical examination there was positive epigastric tenderness. Laboratory evaluation revealed hemoglobin of 10.4g/dl, increased ALT (59U/L) and ESR (52mm/1st Hr). Electrolytes were deranged which can be explained by the increased frequency of vomiting. On laboratory evaluation, she was found to be H pylori positive. Rest of the lab investigations were in the normal range. Endoscopy was performed which revealed a normal esophagus and duodenum and a small bulge in the antrum of the stomach with a small pinpoint opening over it (Figure 1). Patient was further referred for endoscopic ultrasound (EUS) which on radial view showed no definite mass or changes in mucosa, submucosa and serosa. Hypodense shadows outside adventitia were seen. An EUS guided Tru-Cut biopsy was performed and sent for histology. Microscopic examination identified the mass as pancreatic tissue. Histologic examination revealed a predominantly flat, ductal-lining epithelium, with focal papillary architecture. Luminal nuclei also displayed some loss of polarization, and some nuclei had open chromatin. No luminal necrosis was identified. These finding were consistent with that of pancreatic rest. Follow up was advised with EUS every 6—12 months to screen for the development of future submucosal gastric pancreatic pathologies.

Discussion

Pancreatic rest or ectopic pancreas is a rare disorder. Typically, it is clinically silent and benign, and it is found incidentally during surgery or endoscopy. Heterotopic pancreas appears as submucosal nodules, usually with central umbilication. Jean-Schultz was the first to report that heterotopic pancreas is pancreatic tissue found outside the usual anatomical location of the pancreas. It is a congenital abnormality, with a male to female ratio of 3:1. Heterotopic pancreas can exist at any position in the abdominal cavity. Diagnostic examinations include contrast radiography, CT scan, and EUS. Accuracy of these tests is limited by the size of the lesion. Surgical resection should be performed when heterotopic pancreas is found incidentally during surgery or when it is symptomatic, to prevent complications due to mass effect or bleeding from ulcerated mass.

Heterotopic pancreas should be considered in the differential diagnosis of gastrointestinal stromal tumor (GIST). Medical treatment is not effective for heterotopic pancreas, and surgical excision is required. It is often impossible to distinguish gastric heterotopic pancreas from primary or metastatic cancer because endoscopic biopsies are often unremarkable. Therefore, frozen sections should be taken rapidly and routinely so as to confirm the diagnosis and avoid unwanted radical surgery such as Whipple’s procedure or subtotal gastrectomy.

Although rare, malignant transformation must be considered when submucosal lesions are identified in the stomach. In order to prove that a malignancy arose from ectopic pancreas, three criteria must be fulfilled, according to Guillou, the tumor must be within or near the ectopic pancreatic tissue; a direct transition
between pancreatic structures and carcinoma must be observed; and the nonneoplastic pancreatic tissue must, at a minimum, comprise fully developed acini and ductal structures. There are three precursor lesions that give rise to pancreatic cancer: mucinous cystic neoplasm (MCN), intraductal papillary mucinous neoplasm (IPMN), and pancreatic intraepithelial neoplasia (PanIN).5 Only a couple of cases of heterotopic pancreas have been reported. Kenneth Juenger, MD et al in Michigan University6 and Grigorios Christodoulidis in Greece7 and Maneesh K. Gupta from State of Louisiana.67

References