Groove Pancreatitis Masquerading as Pancreatic Carcinoma—Detected on ^{18}F -FDG PET/CT

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Abstract

Groove pancreatitis is a rare form of chronic pancreatitis that affects the groove area adjacent to the second part of the duodenum. Clinical and biochemical features often overlap with other subsets of chronic pancreatitis, while the imaging features resemble that of carcinoma of the head of pancreas. We present a 38-year-old man with abdominal pain, nausea, vomiting, and loss of weight who underwent ^{18}F -FDG PET/CT to rule out a pancreatic malignancy. PET/CT imaging features of groove pancreatitis are distinct from the other subsets of chronic pancreatitis, such as alcoholic and autoimmune pancreatitis, and helpful in the diagnosis and planning further management of the patient.

Keywords Groove pancreatitis · ^{18}F -FDG PET/CT · Carcinoma pancreas · Autoimmune pancreatitis · Chronic pancreatitis

Groove pancreatitis (GP) is a rare, distinct form of chronic pancreatitis (CP) affecting the head of pancreas, adjacent to the duodenum, hence the alternative name, para-duodenal pancreatitis [1]. The clinical picture is similar to chronic pancreatitis, but with pronounced loss of weight, nausea, and vomiting and increased association with alcohol consumption [1, 2]. Ultrasound features include presence of a hypoechoic mass in the groove region/pancreatic head, and CT features include duodenal wall thickening and intramural cystic changes with normal patency/minimal dilatation of the common bile duct [3]. Imaging and clinical features of GP

often overlap with that of autoimmune pancreatitis, benign cystic lesions of pancreas, and the potentially ominous diagnosis of pancreatic carcinoma [3–6]. Because of its relatively uncommon occurrence, there is paucity of data on the imaging features of GP on ^{18}F -FDG PET/CT [7]. In the present case, the pattern of FDG uptake and the cystic lesions in the groove region with involvement of the duodenal wall pointed towards the diagnosis of GP. However, since features of pancreatic adenocarcinoma and GP frequently overlap, one needs to exercise a high degree of caution while interpreting the images.

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Fig. 1 A 38-year-old man, chronic alcohol abuser, presented with the complaint of intermittent abdominal pain, nausea and vomiting, fever, and loss of weight for the past 2 months. He reported having multiple such episodes in the past which were medically managed. Biochemical tests revealed elevated serum levels of lipase and amylase. Ultrasound of the abdomen showed bulky pancreatic head with dilated main pancreatic duct and common bile duct. Contrast enhanced computed tomography (CECT) of the abdomen showed multiple non-enhancing hypodensities involving the pancreatic head and uncinate process. Due to the presence of gastric outlet obstruction, a feeding nasojejun tube was placed, subsequent to which the patient tolerated oral feeds. ^{18}F -FDG PET/CT was

done to rule out pancreatic malignancy. Maximum intensity projection (Fig. 1, a), trans-axial CT (b), and fused PET/CT (c; short arrow) images showed edematous wall thickening of the second part of the duodenum, intramural cysts, and adjacent fat stranding. Trans-axial CT (d) and fused PET/CT (e; long arrow) images also showed multiple FDG avid (SUVmax 5.8), peripherally enhancing solid-cystic soft tissue hypodensities in the region of the head and uncinate process of the bulky pancreas. The imaging findings along with the clinical features raised the possibility of groove pancreatitis (GP). The patient was medically managed with enzyme and antioxidant supplementation along with analgesics for pain relief and had significant symptomatic relief

Compliance with Ethical Standards

Conflict of Interest Ashwin Singh Parihar, Bhagwant Rai Mittal, Shelvin Kumar Vadi, Apurva Sood, Rajender Kumar, and Usha Dutta declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. For this type of study, formal consent is not required.

Informed Consent The institutional review board of our institute approved this retrospective study, and the requirement to obtain informed consent was waived.

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