Published online: 2019-09-24

Case Report

Pancreatic Cancer Masked by Acute Pancreatitis as well as an Unusual Iatrogenic Complication

Surinder Singh Rana, Ujjwal Gorsi[1], Pankaj Gupta, Ravi Sharma, Rajender Basher[2], Lovneet Dhalaria, Rajesh Gupta[3]

Departments of Gastroenterology, [1]Radiology, [2]Nuclear Medicine and [3]Surgery, Postgraduate Institute of Medical Education and Research, Chandigarh, India

Abstract

A 62-year-old female presented with abdominal pain and was diagnosed as acute on chronic pancreatitis based on elevated serum amylase and imaging findings. The pancreatic duct was dilated with abrupt cutoff at neck of pancreas, but no mass was visualized. Positron emission tomography-computed tomography (PET-CT) revealed a fluorodeoxyglucose (FDG) avid lesion in the neck of the pancreas but ultrasound (USG)-guided fine-needle aspiration (FNA) from the lesion revealed only inflammatory cells. Endoscopic ultrasound, done 2 days after USG-guided FNA, revealed pseudoaneurysm (PA) in the neck of pancreas that was confirmed on CT angiography. The PA was occluded by USG-guided percutaneous cyanoacrylate injection. As pain persisted, repeat PET CT was done which revealed FDG avidity around the cyanoacrylate cast as well in multiple small hypodense lesions in the right lobe of the liver. USG-guided FNA from both the liver lesion as well as the periphery of the glue cast revealed features of adenocarcinoma. We herein report a case of pancreatic adenocarcinoma that presented as acute pancreatitis and got masked because of formation of PA consequent to USG-guided FNA.

Keywords: *Adenocarcinoma, endosonography, fine-needle aspiration, pseudoaneurysm*

Introduction

Both acute and chronic pancreatitis are not uncommon in the elderly population. It has been reported that up to 30% of acute pancreatitis (AP) is seen in patients older than 65 years.[1] The etiological spectrum of AP in elderly is almost similar to young with increased frequency of gallstones as an etiology. Moreover, in severe pancreatitis, the elderly are at an increased risk of complications and mortality.[2] Pancreatic tumors are also an important although uncommon cause of AP in elderly. The ductal adenocarcinoma causes AP by obstructing the main pancreatic duct (PD), producing ductal hypertension, and consequent leakage of enzymes. In malignancy-associated pancreatitis, the mass may be obscured on imaging by diffuse inflammatory changes, and therefore, it is important to carefully look for it in elderly patients with idiopathic pancreatitis.[1-3] We herein report a unique case of pancreatic adenocarcinoma that presented as AP and was not visible on initial imaging because of inflammatory changes and subsequently got masked because of formation of pseudoaneurysm (PA) consequent to ultrasound (USG)-guided fine-needle aspiration (FNA).

Case Report

A 62-year-old female presented to a tertiary care hospital elsewhere with complaints of acute onset abdominal pain and vomiting. She was diagnosed as acute on chronic pancreatitis based on elevated serum amylase and presence of enlarged pancreas with peripancreatic fat stranding and a small peripancreatic fluid collection on contrast-enhanced computed tomography (CECT) [Figure 1] and a dilated main PD in body and tail on magnetic resonance imaging [Figure 2]. No mass could be identified obstructing the main PD. As her serum CA 19-9 was elevated (3687 U/ml; N <37 U/ml), she underwent

Address for correspondence: Prof. Surinder Singh Rana, Department of Gastroenterology, Postgraduate Institute of Medical Education and Research, Sector 12, Chandigarh - 160 012, India. E-mail: drsurinderrana@yahoo.co.in

Access this article online

Quick Response Code:

Website: www.jdeonline.in

DOI: 10.4103/jde.JDE_95_17

How to cite this article: Rana SS, Gorsi U, Gupta P, Sharma R, Basher R, Dhalaria L, *et al*. Pancreatic cancer masked by acute pancreatitis as well as an unusual iatrogenic complication. J Dig Endosc 2018;9:88-91.

positron emission tomography (PET)-CT. It revealed a fluorodeoxyglucose (FDG) avid lesion in the neck of pancreas measuring 2.6 cm in diameter and obstructing the PD [Figure 3]. Furthermore, patchy avidity was observed in distal pancreas suggestive of peripancreatic inflammation [Figure 4].

An USG-guided FNA was attempted from the pancreatic body lesion elsewhere and it revealed only inflammatory cells. In view of strong suspicion of malignancy, patient was referred to us for endoscopic ultrasound (EUS)-guided FNA. EUS, done 2 days after USG-guided FNA, revealed an anechoic lesion with thick walls, measuring 2.8 cm in the neck of pancreas [Figure 5; arrows], obstructing the PD. This anechoic lesion had vascularity on color Doppler [Figure 6] and arterial flow on pulse Doppler [Figure 7]. On contrast-enhanced EUS, the contrast was seen filling this anechoic lesion in the arterial phase. No other mass lesion could be identified.

CT angiography [Figure 8; arrows] and digital subtraction angiography confirmed the presence of PA arising from gastroduodenal artery. Attempt to angioembolize PA was unsuccessful because of guidewire-induced nonfilling dissection of the common hepatic artery. Therefore, percutaneous cyanoacrylate was injected in the PA under Doppler guidance. CECT confirmed the obliteration of the PA by glue cast [Figure 9]. The obliterated PA appeared to block the main PD leading on to upstream dilatation [Figure 9; black arrows], and careful evaluation revealed peripheral hypodensity around the glue cast [Figure 9]. As patient continued to be symptomatic, a repeat FDG PET-CT was done, and it revealed FDG avidity around the cyanoacrylate cast [Figure 10] as well in multiple small hypodense lesions in the right lobe of liver [Figure 11]. USG-guided FNA was done from both the liver lesion as well as the periphery of the glue cast. The cytological examination of the aspirate revealed features suggestive of adenocarcinoma. The patient was subsequently referred to oncology services.

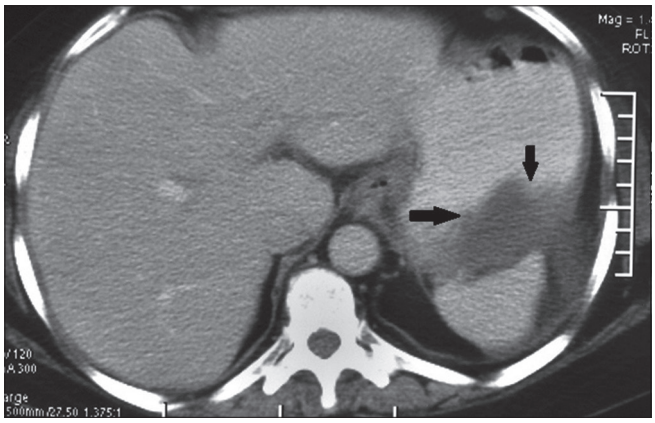

Figure 1: Contrast-enhanced computed tomography abdomen: Small acute fluid collection near tail of pancreas (arrows)

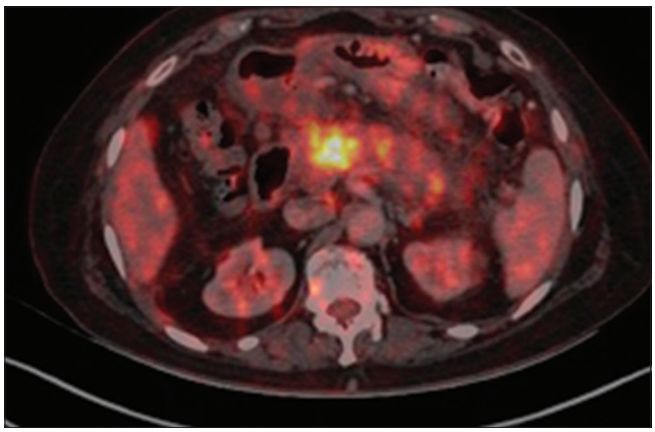

Figure 3: Positron emission tomography-computed tomography: Flouro-deoxyglucose avid lesion in neck of pancreas

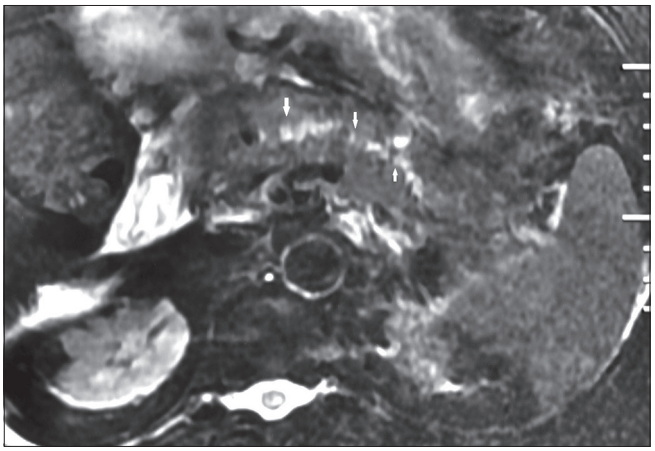

Figure 2: Magnetic resonance cholangiopancreatography: Dilated main pancreatic duct with abrupt cutoff at the neck (arrows). No mass could be identified

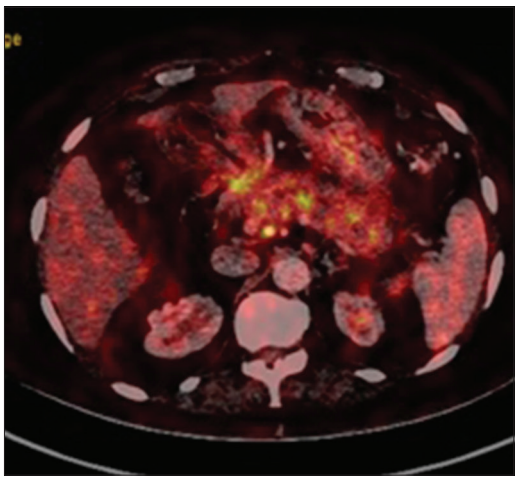

Figure 4: Positron emission tomography-computed tomography: Patchy Flouro-deoxyglucose avidity in distal pancreas suggestive of peripancreatic inflammation

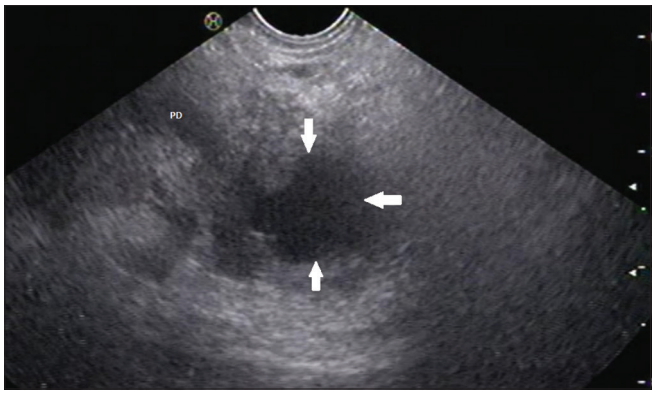

Figure 5: Endoscopic ultrasound: Anechoic lesion with thick walls, measuring 2.8 cm in the neck of pancreas

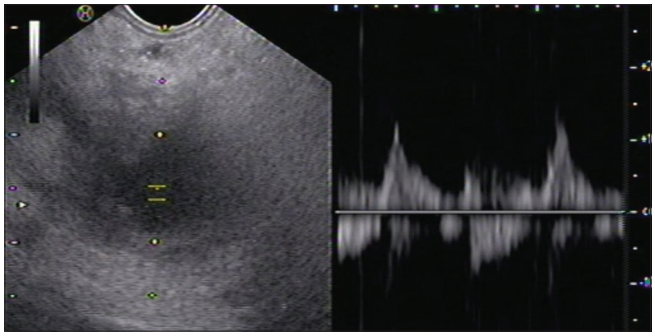

Figure 7: Endoscopic ultrasound: Lesion shows arterial flow on pulse Doppler

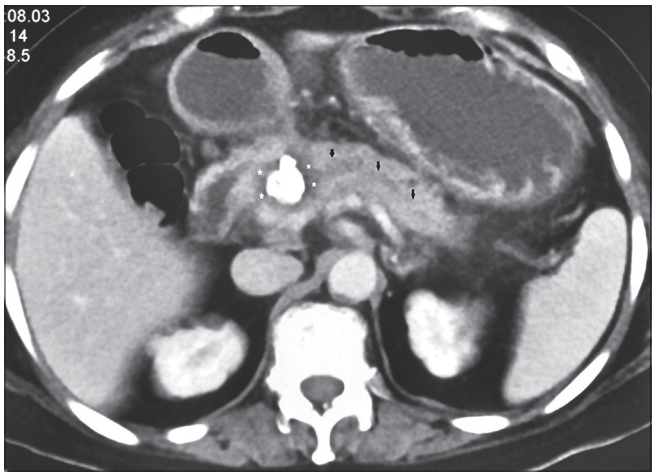

Figure 9: Contrast-enhanced computed tomography: obliterated pseudoaneurysm by glue cast. The obliterated pseudoaneurysm appears to block main pancreatic duct leading to upstream dilatation (black arrows), and there is peripheral hypodensity around the glue cast (*)

Discussion

Pancreatic cancer is an uncommon cause of AP even in the elderly population.[1-3] The frequency of AP in pancreatic cancer patient has been reported to vary from 6.8% to 13.8% and majority of patients present with mild AP.[4-6] The ductal adenocarcinoma causes AP by obstructing the main PD, producing ductal hypertension,

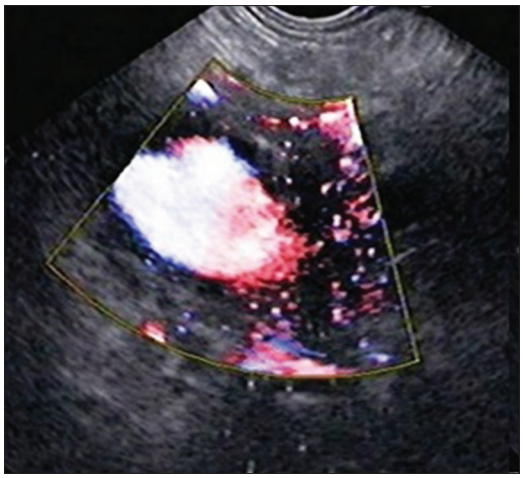

Figure 6: Endoscopic ultrasound: Lesion shows vascularity on color Doppler

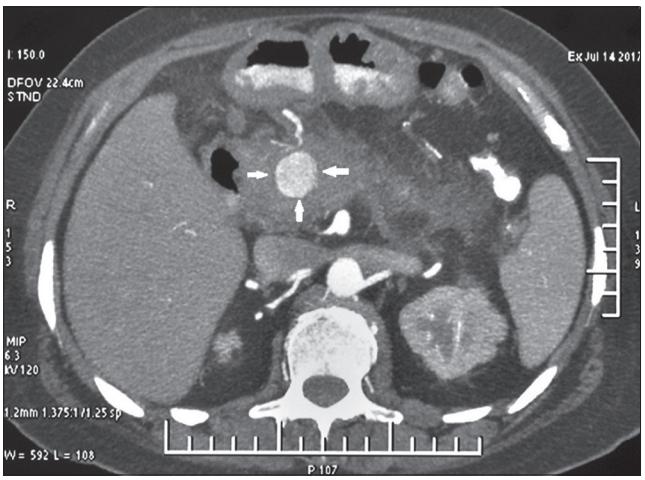

Figure 8: Computed tomography angiography: Pseudoaneurysm arising from gastroduodenal artery (arrows)

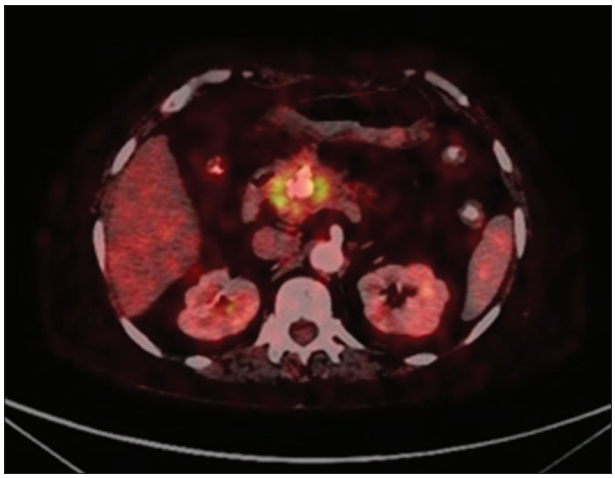

Figure 10: Positron emission tomography-computed tomography: Flouro-deoxyglucose avidity around the glue cast

and consequent leakage of enzymes. These patients are usually misdiagnosed and the underlying malignancy

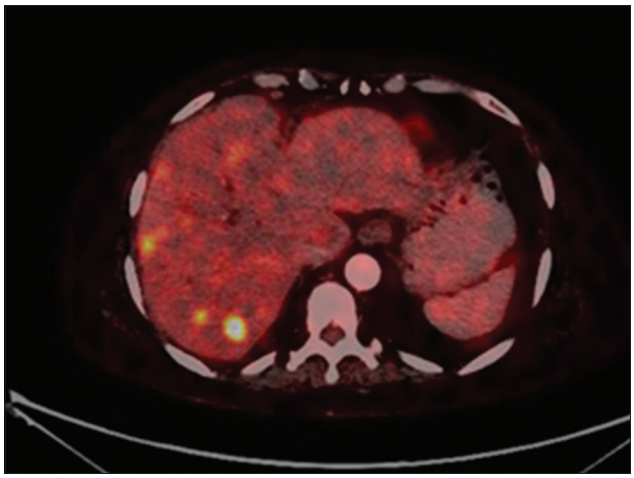

Figure 11: Positron emission tomography-computed tomography: Flouro-deoxyglucose avid lesion in the right lobe of liver

is usually hidden because of various reasons such as diffuse pancreatic inflammation in AP could mask the underlying mass lesion or a small-sized obstructing tumor may be missed on cross-sectional imaging.[6,7] In these cases, FDG PET-CT or EUS may help in detection of small lesions as was in the index case.[6,8]

Peripancreatic PA is usually formed due to injury to the peripancreatic artery either because of pancreatitis, trauma, percutaneous or endoscopic interventional procedures, or abdominal surgery, leading on to leakage of blood into the surrounding tissue and formation of a blood-formed cavity communicating with the damaged artery.[9] However, the formation of PA following image-guided FNA is very rare and has been described in occasional case reports.[10,11] These reports have reported the formation of PA within 48 h of FNA. In our case also, the PA formed within 48 h of FNA. It further masked the underlying mass lesion as it formed exactly at the same location where the mass was suspected, making the diagnosis more difficult.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Gullo L, Sipahi HM, Pezzilli R. Pancreatitis in the elderly. J Clin Gastroenterol 1994;19:64-8.
2. Xin MJ, Chen H, Luo B, Sun JB. Severe acute pancreatitis in the elderly: Etiology and clinical characteristics. World J Gastroenterol 2008;14:2517-21.
3. Browder W, Patterson MD, Thompson JL, Walters DN. Acute pancreatitis of unknown etiology in the elderly. Ann Surg 1993;217:469-74.
4. Kimura Y, Kikuyama M, Kodama Y. Acute pancreatitis as a possible indicator of pancreatic cancer: The importance of mass detection. Intern Med 2015;54:2109-14.
5. Kohler H, Lankisch PG. Acute pancreatitis and hyperamylasemia in pancreatic carcinoma. Pancreas 1987;2:117-9.
6. Li S, Tian B. Acute pancreatitis in patients with pancreatic cancer: Timing of surgery and survival duration. Medicine (Baltimore) 2017;96:e5908.
7. Minato Y, Kamisawa T, Tabata T, Hara S, Kuruma S, Chiba K, *et al.* Pancreatic cancer causing acute pancreatitis: A comparative study with cancer patients without pancreatitis and pancreatitis patients without cancer. J Hepatobiliary Pancreat Sci 2013;20:628-33.
8. Rana SS, Bhasin DK, Rao C, Singh K. Role of endoscopic ultrasound in idiopathic acute pancreatitis with negative ultrasound, computed tomography, and magnetic resonance cholangiopancreatography. Ann Gastroenterol 2012;25:133-7.
9. Pang TC, Maher R, Gananadha S, Hugh TJ, Samra JS. Peripancreatic pseudoaneurysms: A management-based classification system. Surg Endosc 2014;28:2027-38.
10. Singhal M, Gupta V, Singh P, Lal A, Behra A, Khandelwal N, *et al.* Iatrogenic life-threatening pseudoaneurysms of extracranial internal carotid artery after fine-needle aspiration of cervical lymph nodes: Report of two cases in children. Cardiovasc Intervent Radiol 2009;32:1260-3.
11. Melloni G, Bandiera A, Crespi G, Zannini P. Intercostal artery pseudoaneurysm after computed tomography-guided percutaneous fine needle aspiration lung biopsy. J Thorac Imaging 2012;27:W48-9.