

Pancreaticoduodenal Fistula: A Rare Presentation of Intraductal Papillary Mucinous Neoplasm (IPMN) of the Pancreas

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Introduction

Due to widespread use of abdominal imaging, cystic lesions of the pancreas are increasingly detected. Intraductal papillary mucinous neoplasms (IPM) account for up to 25% of surgically resected neoplasms and up to 50% of incidentally detected pancreatic cystic lesions (1). Although patients with IPMN can be asymptomatic, they can also present with symptoms of abdominal pain, weight loss or steatorrhoea. Complications include acute pancreatitis, perforation, haemorrhage and rarely fistulisation to adjacent organs (2).

Case Report

An 80 year old gentleman presented with one day history of epigastric pain. On examination, he had mild tenderness at the epigastrium without guarding. His blood results showed an elevated white blood cell count of 13.64g/dL, normal amylase, renal and liver function. CT abdomen demonstrated diffusely swollen pancreas with homogenous contrast enhancement, peri-pancreatic fat strands and prominent peri-pancreatic lymph nodes (Figure 1). The main pancreatic duct was diffusely dilated, measuring up to 1.3cm in diameter at the pancreatic head. The pancreatic duct had a bifid configuration with dominant duct of Wirsung drainage. An abnormal communication between a dilated side branch pancreatic duct at the pancreatic neck and adjacent D1 segment of the duodenum was noted (Figures 2 & 3, indicated by yellow arrows). An initial diagnosis of pancreaticoduodenal fistula due to IPMN or duodenal ulceration resulting in chronic inflammation was made. Subsequent ERCP demonstrated an abnormal opening over medial wall of D1 of the duodenum with a small papillary growth and mucus plugging noted within, confirming the diagnosis of pancreaticoduodenal fistula secondary to IPMN (Figure 4). Biopsy showed moderate dysplasia and surgery was offered to patient. However, patient declined surgery given his advance age and opted for observation instead.



Figure 1



Figure 2



Figure 3



Figure 4

Discussion

IPMN can be classified according to their anatomical involvement with the pancreatic ductal system and by their histopathological presentation. Surgical resection is recommended for patients with main duct IPMN due to high risk of malignant transformation, for lesions with suspicious features confirmed on EUS and for lesions which have increased solid components, main pancreatic duct = 10mm, and presence of obstructive jaundice(1, 3).

Fistulation to adjacent organ is a rare complication of IPMN. In a study of 423 patients with IPMN, 8 patients (1.9%) were found to have fistulas to adjacent organs, of which 50% IPMN were of the main duct type, 13% were of branch duct type and 38% of mixed type. 63% were incidental findings (2). The mean age was 74 years old. Duodenum was the organ most commonly affected, followed by stomach, common bile duct and the colon. 73% of all fistulas were found to be developed from malignant IPMN at histopathological analysis. One of the complications of IPMN is pancreatitis, it has been postulated that pancreaticointestinal fistulas allow better drainage of mucus or debris from the pancreatic ducts, hence reducing the frequency of recurrent acute pancreatitis (4). Although fistulations between IPMN and adjacent organs are rare, as pancreatic cystic lesions are increasingly detected, radiologists and clinicians should be aware of this potential complication to guide further management.

References

- 1.Dumlu EG, Karakoç D, Özdemir A. Intraductal Papillary Mucinous Neoplasm of the Pancreas: Current Perspectives. *Int Surg*. 2015;100(6):1060-8.
- 2.Ravaud S, Laurent V, Jauiset F et al. CT and MR imaging features of fistulas from intraductal papillary mucinous neoplasms of the pancreas to adjacent organs: A retrospective study of 423 patients. *European Journal of Radiology*. 2015;84(11):2080-8.
- 3.Fonseca AL, Kirkwood K, Kim MP et al. Intraductal Papillary Mucinous Neoplasms of the Pancreas: Current Understanding and Future Directions for Stratification of Malignancy Risk. *Pancreas*. 2018;47(3):272-9.
- 4.Khneizer G, Reddy KM, Hammami MB et al. Formation of Pancreato-duodenal Fistula in Intraductal Papillary Mucinous Neoplasm of the Pancreas Decreased the Frequency of Recurrent Pancreatitis. *Gastroenterology Res*. 2019;12(1):43-7.