Case Report

Pancreatic duct leak in a case of post Whipple surgery: Managed by endoscopic ultrasound guided pancreatogastrostomy

Rajesh Puri, Narendra S. Choudhary, Hardik Kotecha, Ankesh Rawat[1], Randhir Sud
Institute of Digestive and Hepatobiliary Sciences, [1]Institute of GI Surgery, Medanta, The Medicity, Gurgaon, India

ABSTRACT

Endoscopic ultrasound (EUS) or endoscopic retrograde cholangiopancreatography (ERCP) provides an option of minimal invasive intervention over surgery. EUS-guided pancreatogastrostomy (EPH) is particularly useful in patients with altered anatomy where ERCP is not feasible. This paper reports a case of post Whipple surgery pancreatic ductal leak and external pancreatic fistula, which was managed by EPH. The patient had uneventful post-procedure course and were asymptomatic at 6 months.

Key words: Endoscopic ultrasound, pancreatic duct leak, pancreatic fistula

INTRODUCTION

Pancreatic duct drainage by endoscopic retrograde cholangiopancreatography (ERCP) is a useful and less invasive modality for pancreatic ductal leak or relief of pain in cases of pancreatic ductal dilatation. Endoscopic ultrasound (EUS) provides great anatomical details of pancreas hence it can be used for pancreatic ductal drainage where it is not possible by conventional ERCP due to stricture or altered anatomy (postsurgery). In this paper, we report an interesting case of post Whipple surgery pancreatic ductal leak and external pancreatic fistula, which was managed by EUS-guided pancreatogastrostomy (EPG).

Access this article online	
Quick Response Code:	Website: www.eusjournal.com
	DOI: 10.4103/2303-9027.138795

CASE REPORT

A 57-year-old male, a known case of chronic calcific pancreatitis for 6 years presented with a history of worsening abdominal pain, recurrent vomiting, loss of appetite and weight for 1 month. A gastroscopy was done; it showed stomach full of residue food consistent with gastric outlet obstruction. A contrast computed tomography (CT) abdomen was done, it showed hypoechoic pancreatic head lesion causing gastric outlet obstruction, thickened duodenal folds, dilated pancreatic duct and prominent common bile duct. Patient underwent Whipple's surgery, excised specimen showed fibrosing calcific pancreatitis. Patient was discharged from hospital on day 7. He was admitted again after 1 month of surgery with complaints of abdominal pain, vomiting and fever. A contrast CT was done; it showed dilated pancreatic duct and a collection near splenic hilum. He was managed conservatively with antibiotics and was discharged. The patient was admitted once again after 1 month with abdominal pain, distension and fever. A CT abdomen was done; it showed dilated pancreatic duct and significant collection near splenic

Address for correspondence
Dr. Rajesh Puri, E-mail: purirajesh69@gmail.com
Received: 2013-11-10; **Accepted:** 2013-12-17

hilum [Figure 1]. A percutaneous drain was placed in perisplenic collection; drain fluid analysis showed high amylase (46871 IU/L). The patient had persistent high-drain output (>400 ml/day for >15 days), hence he was taken for EUS guided pancreatic duct drainage with linear (GF-UCT 140 Olympus, Tokyo, Japan with Aolka ultrasound system) scope. Pancreatic duct was punctured from stomach with 19 G needle (Echo Tip, Cook Medical), pancreatogram was showed dilated duct and a leak from tail of pancreas region; a 0.25 inch guide-wire (Visiglide, Olympus) was placed in it and the tract was further dilated with pancreatic dilator and balloon dilator (Huricane balloon 4 mm, Boston Scientific). A 10 Fr stent was placed in pancreatic duct [Figures 2 and 3]. Patient had an uneventful course after the procedure, and percutaneous drain was removed on day 5. The patient is asymptomatic at 3 months follow-up.

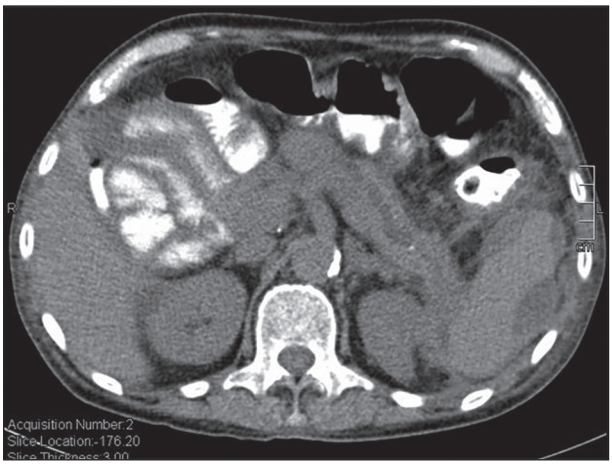

Figure 1. Computed tomography abdomen showing dilated pancreatic duct and collection near spleen

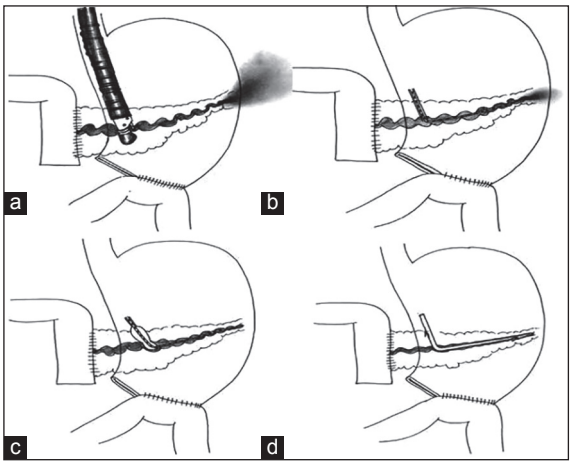

Figure 2. Diagrammatic representation of various steps of pancreaticogastrostomy, (a) pancreatogram taken from needle through stomach showing leak from pancreatic tail and dilated duct, (b) guidewire placed through needle into pancreatic duct, (c) balloon dilatation of tract over guidewire, (d) placement of stent

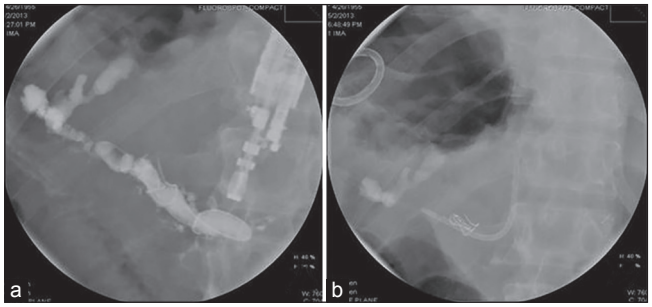

Figure 3. Flouroscopy images, (a) dilated pancreatic duct and leak from tail, (b) placement of stent, percutaneous drainage catheter is seen in b

DISCUSSION

Pain of chronic pancreatitis can be caused by dilated duct (ductal hypertension). The present case needed some form of definitive therapy in view of pain and persistent drainage (pancreatic fistula) from percutaneous drainage catheter. EUS or ERCP provides option of minimal invasive intervention over surgery. As patient had Whipple's surgery, ERCP was not an option due to altered anatomy, and only EUS could be done. There is ample literature available about EUS guided pancreatic cyst drainage (cystogastrostomy), the same technique can be used for pancreatic duct drainage from the stomach. In a study by Kahaleh *et al.*, 13 patients underwent EPG where ERCP was not possible (7 had earlier surgery and altered anatomy, 6 had pancreatic ductal stricture due to various reasons), EPG could be done in all; however, guide-wire could not be advanced due to needle position in two patients. One patient was diagnosed as malignancy, stents were placed in rest of the patients (n = 10). At a mean follow-up of 14 months, there was a significant decrease in pain score and pancreatic duct size. Complications in their series included one case of bleeding and one case of contained perforation.[1] In another series of four patients by François *et al.*; procedure could be performed in all of the patients without any complication and three out of four patients had satisfactory pain relief.[2] EUS guided EPG is particularly useful in patients with altered anatomy where ERCP is not feasible, as in the present case.[3,4] In patients with pancreatic leak and nondilated ducts, EPG is practically not possible. In those cases possible interventions include transpapillary (which was not possible in the present case due to altered anatomy after Whipple's surgery), observation or surgical intervention.

REFERENCES

1. Kahaleh M, Hernandez AJ, Tokar J, *et al*. EUS-guided pancreaticogastrostomy: Analysis of its efficacy to drain inaccessible pancreatic ducts. *Gastrointest Endosc* 2007;65:224-30.
2. François E, Kahaleh M, Giovannini M, *et al*. EUS-guided pancreaticogastrostomy. *Gastrointest Endosc* 2002;56:128-33.
3. Katanuma A, Maguchi H, Fukazawa M, *et al*. Endoscopic ultrasonography-guided pancreaticogastrostomy for a case of occlusion of gastro-pancreatic anastomosis after pancreaticoduodenectomy. *Dig Endosc* 2009;21 Suppl 1:S87-91.
4. Teoh AY, Ng EK, Hawes R. EUS-guided rendezvous pancreaticogastrostomy in a patient with central pancreatectomy. *Gastrointest Endosc* 2013;77:500-1.

How to cite this article: Puri R, Choudhary NS, Kotecha H, Rawat A, Sud R. Pancreatic duct leak in a case of post Whipple surgery: Managed by endoscopic ultrasound guided pancreatogastrostomy. Endosc Ultrasound 2014;3:195-7.

Source of Support: Nil. **Conflict of Interest:** None declared.