The THAI Journal of SURGERY 2007; 28:48-50.
Official Publication of the Royal College of Surgeons of Thailand

Pancreatic Ascites in Young Patient Successfully Treated with Pancreatic Duct Stenting: Report of A Case

Weerapat Suwanthanma, MD[1]
Youwanush Kongdan, MD[1]
Veera Suwanreungsri, MD[2]

[1]*Division of General Surgery, Unit B, Faculty of Medicine, Ramathibodi Hospital, Bangkok, Thailand*
[2]*Department of Surgery, Maharat Nakhonratchasima Hospital, Nakhonratchasima, Thailand*

Abstract **Pancreatic ascites is a rare complication after an attack of pancreatitis. Very few cases of pancreatic ascites occurring in young people have been reported in the literature. The treatment of pancreatic ascites is still controversial, ranging from conservative treatment to endoscopically stenting and even surgery. ERCP is mandatory to identify the site of leakage before considering further treatment. We herein report a case of young patient with pancreatic ascites who was successfully treated by endoscopic pancreatic stenting.**

Key words: **Pancreatic ascites, Pancreatic duct stenting, Endoscopic treatment**

Introduction

Pancreatic ascites is a rare complication after an attack of pancreatitis. Less than 300 cases have been reported in the literature from 1975-2000.[1] However, in patients aged 20 or under, only 11 cases have been described since 1975.[2-10] The treatment of pancreatic ascites is still controversial, ranging from conservative treatment to endoscopically stenting and even surgery. Recently, Bracher et al have shown promising results with the endoscopic pancreatic duct stenting.[11] We herein report a young patient with pancreatic ascites who was successfully treated by endoscopic pancreatic duct stenting.

Case Report

A 14-year-old female student developed an attack of acute abdominal pain which was later diagnosed as acute pancreatitis. She was admitted to the hospital and conservatively treated with nasogastric tube decompression and NPO. Her hospital course was uneventful. She was discharged home 10 days later. She then noticed bulging abdomen which gradually enlarged. CT scan of the abdomen revealed large amount of ascitic fluid (Figure 1). She did not have any abdominal pain at that time. The patient was re-admitted one week later with ascites which was proved to be pancreatic in nature. The amylase level from

Correspondence address : *Weerapat Suwanthanma, MD, Division of General Surgery, Unit B, Faculty of Medicine Ramathibodi Hospital, Bangkok, Thailand 10400; E-mail: tewsw@mahidol.ac.th*

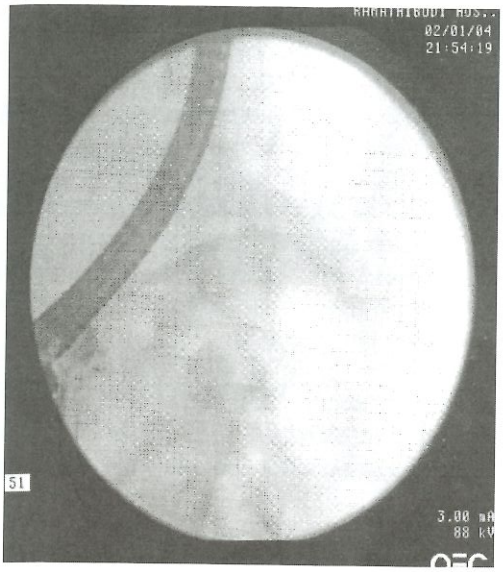


Figure 1 Large amount of ascitic fluid from CT scan of the abdomen

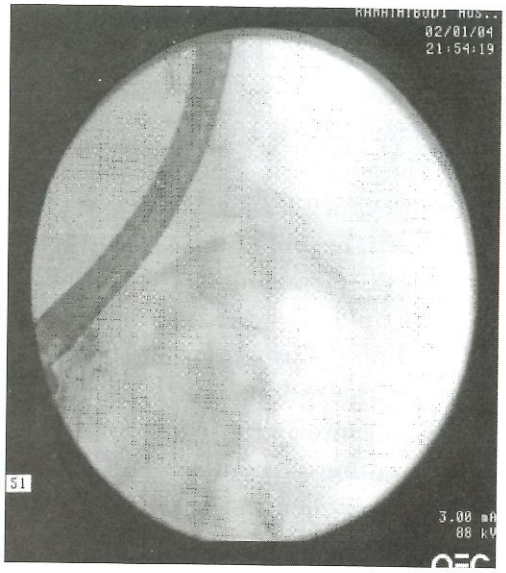


Figure 3 Last pancreatogram showing no further contrast leakage after removal of pancreatic duct stent

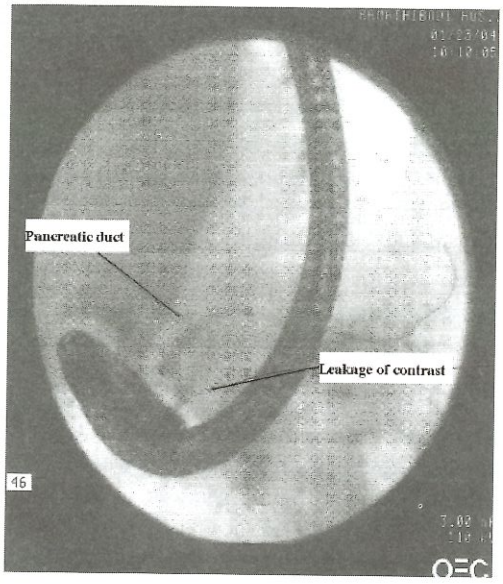


Figure 2 First pancreatogram showing leakage of contrast media from proximal pancreatic duct

ascitic fluid was 28,000 U/L. Again, this was managed conservatively by NPO and nasogastric decompression but without any success.

The patient was then sent to the university hospital three weeks later. The diagnosis of pancreatic ascites was confirmed by repeated examination of the fluid. We then decided to perform ERCP to identify the site of pancreatic ductal leakage. ERCP revealed leakage of contrast media from disrupted pancreatic duct at the level of the neck of the pancreas (Figure 2). The endoscopist successfully placed the pancreatic duct stent No 7 Fr., 7 cm in length, across the disrupted part of the pancreatic duct. The pancreatogram at the end of the procedure demonstrated no further leakage. Her post-procedural period was uneventful.

The patient returned two weeks later for the first follow-up visit. The abdominal examination showed decreasing of abdominal distention. We did not repeat the CT scan of the abdomen at any period of the follow-up. On follow-up at six weeks later, the resolution of ascites was completed and her abdomen was completely flat. The pancreatic stent was then removed 3 months after it was inserted and the last pancreatogram showed good continuity of pancreatic duct without any evidence of leakage (Figure 3).

Discussion

There have been several methods used for the treatment of pancreatic ascites, ranging from conservative treatment, endoscopic treatment to surgical intervention. Conservative treatments may include diet restriction and modification, parenteral nutrition, paracentesis and, recently, the use of somatostatin analogues. The aims of these methods are to decrease pancreatic exocrine secretion and drainage of ascitic fluid to facilitate the closure of pancreatic fistula. However, these treatments still had high failure rates up to 50%.[1]

ERCP is mandatory to identify the site of leakage before considering further treatment.[12] Therapeutic endoscopic intervention by experienced endoscopist is usually recommended and there are two options available. The first is to perform pancreatic duct sphincterotomy which has been previously used with limited success. The aim of this method is to reduce the pancreatic ductal pressure. The second option is to place transpapillary pancreatic duct stents which will decrease not only pancreatic ductal pressure but also leakage of pancreatic ductal fluid.[13] This might be the best non-operative option in well-selected patients. Surgical intervention is recommended in patients who fail endoscopic treatments. The surgical failure rate is 12-18% if a point of leakage could be found by ERCP before surgery. Different surgical approaches have been described depending on the ductal anatomy and the site of leakage.[14]

There has been considerable debate whether an initial course of conservative treatment should be tried before considering interventional therapy.[15-17] However, in this case we decided to obtain more information on pancreatic ductal pathology before we proceeded further. Fortunately, we were able to place the pancreatic duct stent across the fistula site. If one believes in the theory of pancreatic fistula as the cause of pancreatic ascites, ERCP and endoscopic pancreatic duct stenting should be considered as an initial management of patients with pancreatic ascites.

REFERENCES

1. Gomez-Cerezo J, Cano B, Suarez I, et al. Pancreatic Ascites: Study of Therapeutic Options by Analysis of Case Reports and Case Series between the Years 1975 and 2000. Am J Gastroenterol 2003; 98: 568-77.
2. Athow AC, Wilkinson ML, Saunders AJ, et al. Pancreatic ascites presenting in infancy, with review of the literature. Dig Dis Sci 1991; 36: 245-50.
3. Rubin SZ, Ein SH. The unusual presentation of pancreatitis in infancy. J Pediatr Surg 1979; 14: 146-8.
4. Filston HC, McLeod ME, Bolman RM III, et al. Improved management of pancreatic lesions in children aided by ERCP. J Pediatr Surg 1980; 15: 121-8.
5. Bloss RS, Cooley DA. Pancreaticojejunostomy for fulminating pancreatitis and pancreatic ascites in a Jehovah's Witness. J Pediatr Surg 1981; 16: 79-81.
6. Rao SS, Riley SA, Foster PN, et al. Hereditary pancreatitis presenting with ascites. Postgrad Med J 1986; 62: 1151-2.
7. Uchiyama T, Yamamoto T, Mizuta E, et al. A collected review of 37 cases in Japan. Hepatogastroenterology 1989; 36: 244-8.
8. Mucklow ES, Freeman NV. Pancreatic ascites in childhood. Br J Clin Pract 1990; 44: 248-51.
9. Rushforth JA, Beck JM, McMahon M, et al. Resolution of pancreatic ascites with octreotide. Arch Dis Child 1993; 68: 135-6.
10. Johst P, Tsiotos GG, Sarr MG. Pancreatic ascites: A rare complication of necrotizing pancreatitis. A case report and review of the literature. Int J Pancreatol 1997; 22: 151-4.
11. Bracher GA, Manocha AP, DeBanto JR, et al. Endoscopic pancreatic duct stenting to treat pancreatic ascites. Gastrointest Endosc 1999; 49: 710-5.
12. Eckhauser F, Raper SE, Knol JA, et al. Surgical management of pancreatic pseudocysts, pancreatic ascites, and pancreaticopleural fistula. Pancreas 1991; 6 (Suppl 1): S66-S75.
13. Kozarek RA, Jiranek GC, Traverso LW. Endoscopic treatment of pancreatic ascites. Am J Surg 1994; 168: 223-6.
14. da Cunha JE, Machado M, Bacchella T, et al. Surgical treatment of pancreatic ascites and pancreatic pleural effusions. Hepatogastroenterology 1995; 42: 748-51.
15. Munshi IA, Haworth R, Barie PS. Resolution of refractory pancreatic ascites after continuous infusion of octreotide acetate. Int J Pancreatol 1995; 17: 203-6.
16. Ohge H, Yokoyama T, Kodama T, et al. Surgical approaches for pancreatic ascites: Report of three cases. Surg Today 1999; 29: 458-61.
17. Gislason H, Gronbech JE, Soreide O. Pancreatic ascites: treatment by continuous somatostatin infusion. Am J Gastroenterol 1991; 86: 519-21.