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Successful Management of Mediastinal Pancreatic Pseudocyst with Endoscopic Transmural Nasopancreatic Drainage

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= 국문초록 =

내시경적 경비적 낭종배액술로 성공적으로 치료한 종격동 췌장 가성낭종 1예

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종격동 췌장 가성낭종은 췌장염의 드문 합병증으로 췌장 주변조직에서 발생하여 식도열공 혹은 대동맥열공을 통해 심장, 식도, 주요혈관들 근처의 후종격동으로 생기는 것으로, 아직 확립된 치료는 없는 실정이고 여러가지 치료법이 시도 되고 있다. 저자들은 복통을 주소로 내원한 42세 남자에서 만성췌장염에 의한 합병증으로 생긴 종격동 췌장 가성 낭종을 내시경적 경비적 낭종배액술로 치료한 증례를 경험하였기에 문헌 고찰과 함께 보고하는 바이다.

중심 단어 : 만성췌장염 · 종격동 췌장 가성낭종 · 내시경적 경비적 낭종배액술.

Introduction

Acute fluid collection can occur in the course of acute pancreatitis in 30−50% of patients[1]. About 40% of these will resolve spontaneously within 6 weeks, but in the remainder this collection will continue to evolve over time[2][3]. Mediastinal pancreatic pseudocyst is rare complication of pancreatitis, and ideal treatment of this condition is still controversial, and then various treatments are described. As the literature review, about 50 cases have been reported with the majority occurring as a complication of alcohol-induced pancreatitis.

We report our experience in a patient with mediastinal pancreatic pseudocyst as a complication of chronic pancreatitis, and resolution with endoscopic transmural nasopancreatic drainage.

Case

A 42-year-old man with a history of recurrent alcoholic pancreatitis presented with a 10 days dysphagia and sudden onset severe epigastric and chest pain. He has the chest pain aggravated by lying down and the pain radiated to back. He was difficult to eat a solid food for 10 days with chest discomfort. He had long time history of

alcohol drink. Vital signs included blood pressure of 125/73mmHg, body temperature of 36.5℃, and pulse rate of 84 bpm. Physical examination revealed diminished breathing sound with frequency in both lung fields. Laboratory findings were amylase 330U/L(28−160U/L) and lipase 460U/L(0−60U/L). Initial electrocardiogram (ECG) showed no axis deviation and tachycardia. A chest radiography suggested a loculated pleural effusion in mediastinal side or a mediastinal mass. Initial contrast enhanced computed tomography (CT) showed a large fluid filled structure lying in lower and middle area of posterior mediastinum, measuring 8.7×9.9×15cm from the body of pancreas extending through the esophageal hiatus, and the parenchymal calcification in the body of pancreas(Fig. 1A). Endoscopic gastroduodenoscopy showed extrinsic compression at the distal esophagus and cardia(Fig. 1B). With flourocopic unit assistance, endoscopic cannulation with endoscopic nasobiliary drainage 7F catheter was placed(Fig. 2A and B). The drained fluid was serous and dark reddish color with thick debris and the large amount of fluid gushed out from the puncture site on cardia of stomach. It drained 70cc to 100cc daily. Drained fluid revealed an exudative fluid with a high amylase level of 37,420IU/L(reference range : 28−160IU/L). Following procedure, the patient's symptoms quickly resolved. After 7 days of insertion, Drained fluid amount was decreased to 10cc per day, and then we removed the catheter under gastroendoscopy. Seven

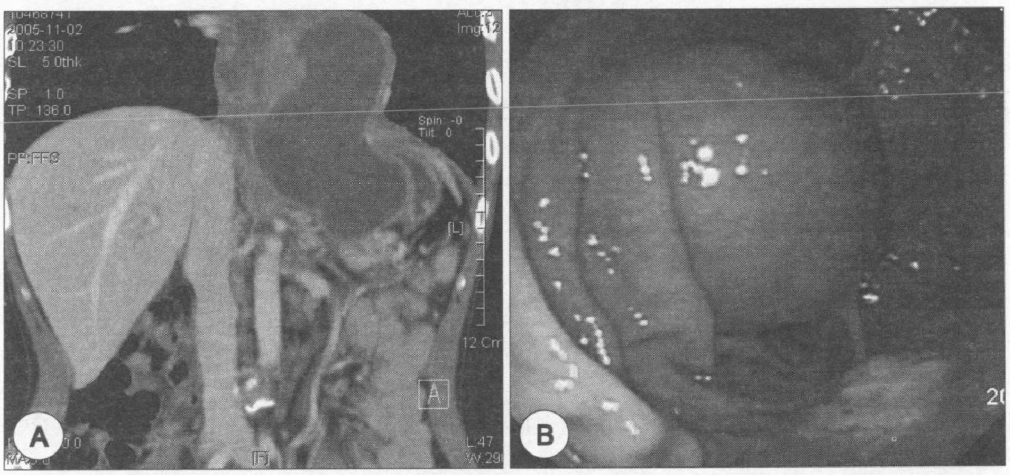

Fig. 1. A : Abdominal CT vertical scan shows large cystic lesion measuring 8.7×9.9×15cm from pancreatic body extending to mediastinum. B : Endoscopic view shows a large extrinsic compression in the gastric cardia.

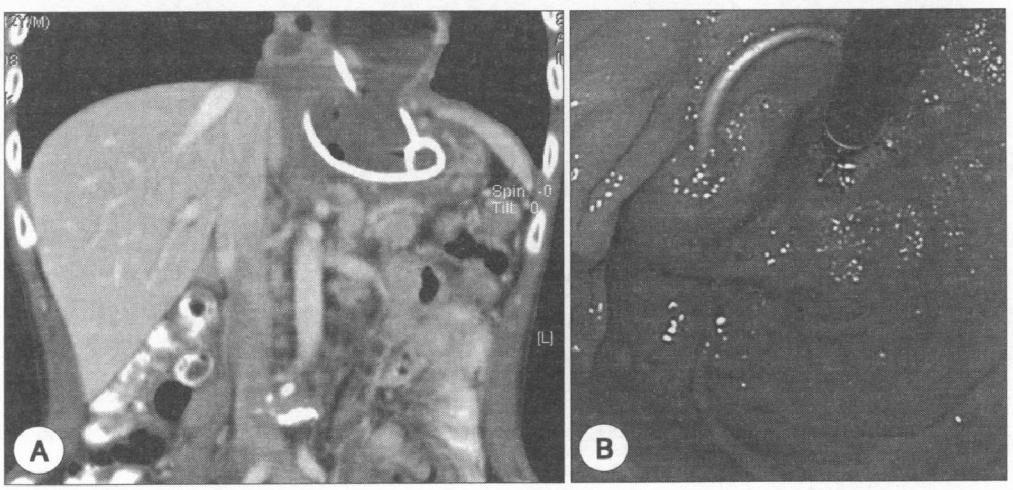

Fig. 2. A : Abdominal CT scan shows inserted tube in cystic lesion. B : Endoscopic view shows inserted transmural nasopancreatic drainage tube in the gastric cardia.

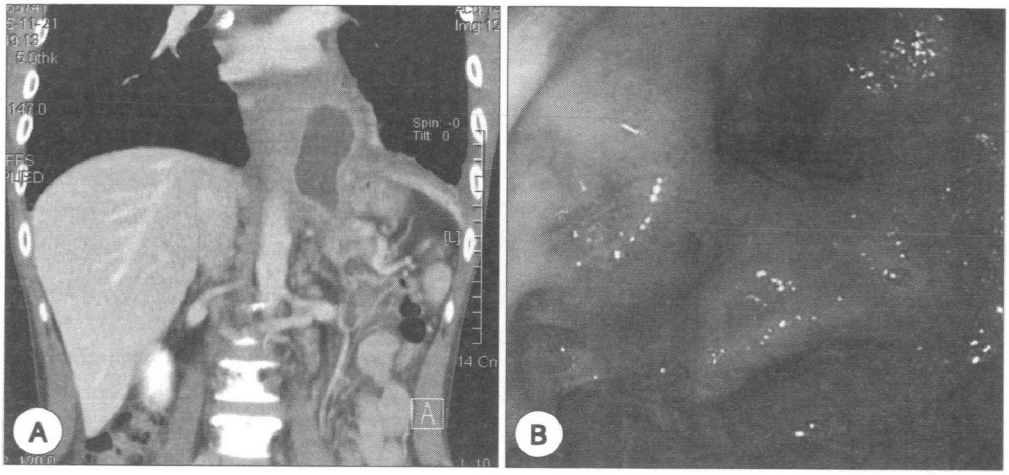

Fig. 3. A : Follow-up CT scan. Marked decreased size of cystic lesion is observed. B : Follow-up endoscopy. There was no extrinsic compression in cardia except insertion scar.

days after removing catheter, repeat CT scan revealed marked decreased cyst and gastroendoscopy showed no further compression of esophagus and cardia (Fig. 3A and B).

Dsicussion

Pseudocystic formation of pancreas is a common complication following an episode of acute pancreatitis. It can also occur in acute exacerbated state of chronic pancreatitis. Peripancreatic fluid collection commonly occurs within the lesser sac and less frequently in the anterior and posterior pararenal spaces. Mediastinal pancreatic pseudocyst is a rare complication of pancreatitis and commonly located in the left side of posterior mediastinum[4]. It results from extension of enzyme rich proteolytic fluid through the diaphragm. Most common route of dissection is para-esophageal or aortic hiatus[5]. Rarely, communication can occur via the foramen of Morgagni or by direct erosion through the diaphragm.

Mediastinal pseudocysts can present with abdominal pain, dyspnea, chest pain, weight loss, dysphagia, nausea, vomiting, fever, and back pain in decreasing frequency[6]. Up to 54% of cases of mediastinal pseudocysts have associated pleural effusion as was presented in our case[7], but dysphagia is a rare symptom in these cases[8][9].

Pancreatic psudocysts, whatever the site, have been treated initially with conservative management, and then surgery with internal drainage, endoscopic transmural, or percutaneous drainage for these cases in which the pseudocyst dose not resolve with conservative treatment alone or developed severe symptoms[10-13]. Mediastinal pancreatic pseudocyst is rarely resolved spontaneously and only 2 cases were reported[10][11]. Most cases require some type of surgical or endoscopic intervention. There are several treatments including conservative, medical treatment, external and internal drainage, and surgery. First, medical supportives and include bowel rest, nutritional support using of parenteral nutrition, and somatostatin[12]. Somatostatin or its analogue, octreotide, can also be used as part of conservative therapy and has been shown to improve outcome in patients with mediastinal pancreatic fluid collections[12][13]. Mechanism of action is related to the inhibition of pancreatic secretion and thereby reducing the release of toxic enzymes. But this usually requires prolonged therapy greater than 40 days. Second, percutaneous external drainage is less invasive than the usual surgical treatment, and is associated with a lower mortality rate as it avoids a major operation[14]. Main drawback of percutaneous approach is that the catheters are prone to clogging with thick pancreatic debris, and there are also risk of ascending infection and high recurrence rate. Fistula formation is another complication that can occur with percutaneous drains, especially if they are left in place for an extended period of time[15]. A case of mediastinal pseudocyst has been de-

scribed in which treatment was successful by using percutaneous drainage via a paraspinal, extrapleural approach under CT guidance[16]. Third, surgical treatment for pancreatic pseudocysts consists of cystgastrostomy and cystjejunostomy. These have been the traditional methods and are highly effective but they are major operations with definite morbidity and mortality. There is a risk of bleeding and infection entailed in both procedures. The overall complication rate of these procedures is about 14%[17].

Newer techniques, such as endoscopic ultrasound (EUS) and EUS-guided fine needle aspiration[18], endoscopic transmural drainage[19], endoscopic transpapillary stent insertion[20], and the medical therapy with the mucolytics agent such as bromhexine hydrochloride[21]. Another endoscopic treatments is endoscopic cystogastrostomy and, more recently, combined laparo-endoscopic cystogastrostomy have been introduced as a procedure that can be used to avoid a major operation. There are only a few reports about successful resolution of mediastinal pseudocysts with endocsopic intervention, especially transmural approach.

We successfully managed our patient with endoscpic transmural nasopancreatic drainge without any other treatment modalities. Prompt symptom relief, relatively simple procedure, and avoiding open surgery with low risk are one of excellence, even if this procedure has risk of recurrence.

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