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Case Report

Successful Conservative Management of Pancreatico-Colonic Fistula

Abstract

Background: Internal fistula with adjacent viscera during acute pancreatitis is a rare complication. Due to their anatomic localization, colon, duodenum or stomach may be involved. Pancreatico-colonic fistula is associated with a higher septic risk and surgery is usually mandatory.

Results and main findings: We report a new case in 71-year-old man diagnosed by CT with rectal water soluble contrast media and managed conservatively. To our knowledge, this is the second case in the literature treated in this way.

Conclusion: Conservative treatment may be offered to selected patients who have a rapid improvement of symptoms associated with a significant regression of the collection.

Abbreviations

CRP: C-Reactive Protein; CT: Computed Tomography; ERCP: Endoscopic Retrograde Cholangio-Pancreatography

Introduction

Internal fistula with adjacent viscera during acute pancreatitis is a rare complication. Due to their anatomic localization, colon, duodenum or stomach may be involved [1]. Pancreatico-colonic fistula is associated with a higher septic risk and surgery is usually mandatory [1,2]. Through a new case and a brief review of the literature, we purpose to discuss the diagnostic and therapeutic modalities of this particular entity.

Results

A 71-year-old man, with a previous history of alcohol abuse, arterial hypertension, asthma and arrhythmia, was admitted to our department for acute abdominal pain with vomiting. Physical examination revealed an epigastric mass. Biological parameters showed serum lipase level at 2430 IU/ml, a white blood cell count at 20100 /mm³, a blood glucose level at 8.37 mmol/l and C-reactive protein (CRP) rate at 287 mg/l. The diagnosis of acute pancreatitis was then retained. Abdominal CT grade was judged to be grade E by showing two fluid collections: the greatest one measuring 80 x 40 mm was located in the lesser sac (Figure 1A) and the other was located in the tail of the pancreas (Figure 1B). Conservative management including i.v. fluids and analgesics was carried out. During the follow-up, the patient experienced persistent symptoms, increasing of the

epigastric mass size and onset of fever at 38.5°C. A second CT performed on the 21th day showed an increase in the size of the lesser sac collection reaching 170 x 120 mm without any sign of infection (Figure 2A). This collection was in close contact with the stomach and the transverse colon exerting a mass effect (Figure 2B). A percutaneous drainage was scheduled within 48 hours (the interventional radiologist was not available before this date). During this interval, the patient developed diarrhea of necrotic materials with anal irritation and concomitantly, a significant regression of the size of the epigastric mass was observed. At biology, there was ascension of CRP to 411 mg/l and an accelerated erythrocyte sedimentation rate at 150. CT performed at 48th hour showed a significant reduction in the size of the fluid collection with presence of gas (Figure 3A). A pancreatico-enteric fistula was strongly suspected. The use

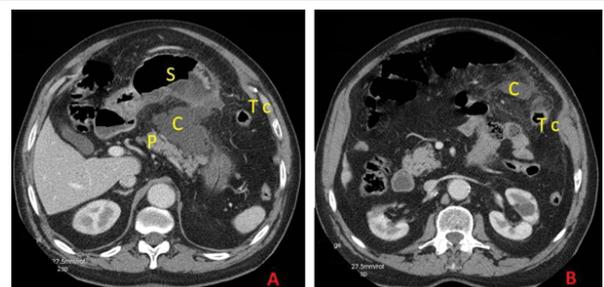


Figure 1: Initial CT: grade E acute pancreatitis. A: fluid collection (C) in the lesser sac in contact with the anterior face of the pancreas (P), the posterior face of the stomach (S) and away from the transverse colon (Tc). B: second fluid collection in the tail of the pancreas near to the transverse colon (Tc).

of oral contrast media did not demonstrate any fistulous tract (Figure 3B). However, rectally administrated water soluble contrast media revealed a large fistula between the collection and the transverse colon (Figure 3C). Subsequently, the patient improved rapidly with antibiotic therapy (apyrexia and resolution of the diarrhea) and he well tolerated a low fat diet. We then decided to continue conservative management. The patient was discharged on 45th day. He was seen regularly and continued to progress well. A repeat CT performed 3 months later showed complete resolution of the collection.

Discussion

Colonic complications during acute pancreatitis are rare and account for 1 to 3.3% [3]. They include a localized ileus with pseudo obstruction, obstruction, necrosis, hemorrhage, ischemic colitis and fistula [3]. Incidence of pancreatico-colonic fistula increases with the severity of pancreatic inflammation [2]. It seems to be comprised between 3 and 10% of severe acute pancreatitis [4-7]. The interval between the onset of acute pancreatitis and appearance of pancreatico-colonic fistula is ranging from 10 to 90 days [8]. In fact, the

fistula is more common in presence of a well-defined collection or pseudocyst, like in our patient, than in poorly organized pancreatic necrosis [9].

Pancreatico-colonic fistula should be suspected in lower gastrointestinal bleeding (which results from erosion of vessels in the bowel wall), sepsis, or diarrhea especially of necrotic or purulent materiel, as in our patient [1,3,10-12].

Pancreatico-colonic fistula may be objectified by injection of contrast media into collection or pseudocyst during endoscopic or percutaneous drainage of them (cystography) [2,9]. ERCP is also useful to diagnosis but only if there is ductal disruption with communication between pancreatic necrosis or collection and main pancreatic duct [13]. On CT scan, an edematous and indistinct large bowel wall and the presence of air in the pancreatic bed is very suggestive for pancreatico-colonic fistula [1]. Confirmation is then obtained by using rectal water soluble contrast media which allow to directly showing the fistula tract, like in our case [11,14]. This examination represents a simple, inexpensive, and efficient modality in comparison with previous ones. Colonoscopy may also identify pancreatico-colonic fistula, but it has been reported by only a few authors and cautions could be taken regard of risk of bowel perforation [1,15].

Surgery remains the treatment of choice of pancreatico-colonic fistulas regarding the risks of colonic perforation, spontaneous or persistent infection, or overwhelming sepsis and massive hemorrhage [1,2,9,10,12,16]. Surgical procedures should be selected according to patient condition and the degree of pancreatic inflammation. For the treatment of colonic fistula, the best surgical procedure is the resection of the responsible segment of the colon [2]. If patient is unfit, diverting colostomy or ileostomy is recommended [2,9]. The treatment of pancreatic necrosis consists of debridement and wide drainage while that of pseudocyst is internal or more often external drainage [9]. Postoperative mortality is high ranging from 17% to 67% [6,17]. So, alternative treatments have been reported which may be endoscopic or percutaneous. Various endoscopic procedures were described. Drainage of pseudocyst either transmurally (endoscopic cystogastrostomy or cystoduodenostomy) or transpapillary (if there is connection with main pancreatic duct) permits rapid closure of the colonic fistula, thus avoiding the need for surgical intervention [9,13,16]. Transpapillary stent insertion in the ductal disruption provides disconnection of pseudocyst [9]. Hwang et al., have reported closing the fistula hole endoscopically using hemoclips and biological glue with good outcome [15]. Sezer et al., reported percutaneous drainage of pancreatic abscess which was fistulized in the ascending colon [18]. Nevertheless, all these techniques are feasible for only well-defined pseudocyst or collection and by an experienced operator. In addition, they require further evaluation before proposing them as a standard.

Unlike fistula to the upper gastrointestinal tract which may be benefit by providing spontaneous drainage of pancreatic collection or pseudocyst, pancreatico-colonic fistula has a higher infectious risk and conservative treatment is theoretically inconceivable [1,19]. However, this was previously reported by

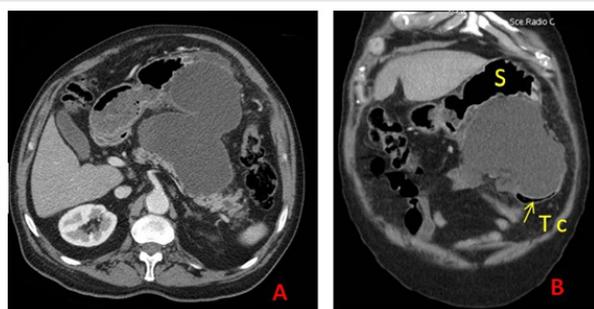


Figure 2: Second CT performed on the 21th day. A: increase in the size of the lesser sac collection (C). B: the collection (C) was in close contact with the stomach (S) and transverse colon (Tc) with mass effect.

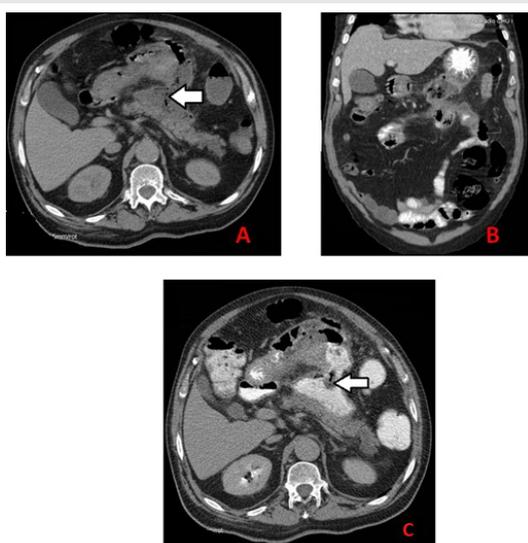


Figure 3: Third CT performed 48 hours later. A: decreased size of the lesser sac collection with presence of gas (white arrow). B: CT with Oral contrast media: no passage of the contrast media into the collection. C: CT with rectal contrast media: passage of the contrast media into the collection with demonstration of a large fistula between the collection and the transverse colon (white arrow).

Green et al. [10]. Our case is the second one in the literature. We advocated conservative treatment because symptoms were spectacularly improved and an almost complete spontaneous drainage of pancreatic collection into colon was observed.

Conclusion

The diagnosis of pancreatico-colonic fistula complicating acute pancreatitis could be made by means of cystography, ERCP or CT with rectal contrast media. Conservative treatment may be offered to selected patients who have a rapid improvement of symptoms associated with a significant regression of the collection or pseudocyst. In the other cases, surgery or eventually endoscopic or percutaneous treatment is required.

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