CASE REPORT

Spontaneous fistulisation of infected walled-off necrosis (WON) into the duodenum in a patient following acute necrotising pancreatitis

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SUMMARY

Infected walled-off necrosis (WON), previously referred to by various terminologies including pancreatic abscess, is one of the well-known local complications of acute necrotising pancreatitis. Very rarely they can spontaneously rupture or fistulise into adjacent structures, leading to either further complications or resolution. More often these events lead to complications rather than resolution of the condition. We report a case of an infected WON following an episode of acute necrotising pancreatitis with spontaneous fistulisation into the duodenum resulting in a complete resolution of the symptoms.

BACKGROUND

Walled-off necrosis (WON) occurs as a late complication of acute necrotising pancreatitis, usually after 4 weeks. This refers to a mature encapsulated acute necrotic collection with a well-defined inflammatory wall.¹ They can occur either within the pancreas or outside the pancreas (peripancreatic) and can be either sterile or infected. This terminology was only recently introduced and is emphasised in the recent Atlanta 2012 guidelines for acute pancreatitis. Ever since the introduction of this new terminology there is no reported case of spontaneous fistulisation of infected WON into the duodenum.

CASE PRESENTATION

A 40-year-old man presented to our hospital with a 5-day history of epigastric pain and fever associated with chills and rigors. He had one episode of acute biliary pancreatitis 4 weeks ago. He also had a history of peptic ulcer disease. Examinations revealed a marked tenderness in the epigastrium. Contrast-enhanced CT (CECT) showed a 8×6 cm heterogeneous collection adjacent to the tail of the pancreas with a well-defined thick wall with air pockets within, suggestive of infected WON (peripancreatic; figure 1). The CT scan also showed a few small calculi in the gallbladder. Since he was haemodynamically stable and there was no evidence of organ failure, he was managed medically with antibiotics (imipenem+amikacin and metronidazole). He continued to have spikes of fever and his abdominal pain persisted. On the fourth day, he had a sudden relief of his abdominal pain. We thought that the patient was responding to the antibiotics. The next day an upper GI scopy was performed to evaluate his peptic ulcer disease, which

Figure 1 Contrast-enhanced CT of the abdomen showing walled-off necrosis (peripancreatic) adjacent to the tail of pancreas with air pockets within (white arrow), and a few small calculi in the gallbladder (black arrow).

showed scattered erosions in the antrum and the first part of the duodenum. When the scope was advanced, a little beyond the third part of the duodenum, there was a fistulous opening seen with frank pus discharging through it indicating that the infected WON had fistulised into the fourth part of the duodenum (figures 2 and 3). The patient was totally afebrile since then and all his symptoms abated. A repeat CT showed a significant reduction in the size (5×3 cm) of the WON (figure 4). The course of antibiotics was completed, and after 2 weeks, an open cholecystectomy was performed.

OUTCOME AND FOLLOW-UP

The patient underwent cholecystectomy during the same admission following resolution of his

Figure 2 Endoscopy picture showing fistulous opening (black arrow) in the duodenum.

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Figure 3 Endoscopy picture showing pus discharging from the fistulous opening in the duodenum.

symptoms and is on regular follow-up. A relook endoscopy performed 1 year after the illness showed no evidence of fistulous opening in the duodenum. He was totally asymptomatic for the past 1 year.

DISCUSSION

Local complications are common in patients with acute pancreatitis. The older nomenclatures used for various types of local complications in acute pancreatitis were not clear and led to a lot of confusion resulting in unstandardised reporting. Now most of the unclear definitions (phlegmon, pancreatic abscess) are no longer used. The recent 2012 revision of the Atlanta classification and definitions by international consensus have clearly defined different types of local complications based on clinical and radiological features, which have led to uniformity in the usage of these terms. According to the recent Atlanta guidelines, the various well-defined local complications of acute pancreatitis include acute peripancreatic fluid collection, pseudocyst, acute necrotic collection and WON.¹

WON is a late complication of acute necrotising pancreatitis occurring usually after 4 weeks. It is a mature encapsulated acute necrotic collection with a well-defined inflammatory wall,

Figure 4 A repeat contrast-enhanced CT of the abdomen showing fistulous communication (white arrow) between the walled-off necrosis (WON) and the duodenum with reduction in the size of the WON when compared with previous scan.

and on contrast-enhanced CT (CECT), it shows heterogenous liquid and non-liquid density.¹ The location may be either pancreatic or extra pancreatic and it may be either sterile or infected. Infection is suspected if there are air pockets seen within the necrosis on CECT. Our patient had a collection with heterogenous density surrounded by a thick, well-defined wall with air pockets within, suggestive of an infected WON.

Management of walled-off pancreatic necrosis usually depends on whether it is sterile or infected. If the WON is sterile, they can be managed conservatively and the role of drainage procedures is controversial. Drainage is indicated only when the patient has refractory abdominal pain, gastric outlet obstruction or failure to thrive (continued systemic illness, anorexia and weight loss) at four or more weeks after the onset of acute pancreatitis.² Drainage options include endoscopic, percutaneous and surgical modalities and the choice depends on the availability of expertise and the severity of comorbid medical illness. Unlike sterile WON, drainage is clearly indicated in patients with infected WON and any one of the above mentioned modalities can be used but there is a high complication rate and longer hospital stay associated with these drainage procedures.³⁻⁴ This ideally requires a multidisciplinary approach.

The therapeutic plan in our patient was to initiate antibiotic therapy and decide on the need for a drainage procedure if the clinical response was inadequate. He had continuing symptoms for 3 days but had an abrupt relief of pain on the fourth day. The next day a gastroscopy was performed, which revealed a fistulous opening in the fourth part of the duodenum with pus discharging through it. It was then clear that the spontaneous fistulisation of the infected WON into the duodenum had resulted in the resolution of his symptoms. There are many previous case reports describing either rupture or fistulisation of pseudocyst of pancreas and infected pseudocyst of pancreas into adjacent structures like stomach, duodenum, colon and portal vein, resulting in either further complications or resolution of the condition.⁵⁻¹¹ Most often these events are associated with complications such as haemorrhage, and occasional death rather than resolution which is very rare. To the best of our knowledge, there are no reports of spontaneous fistulisation of infected WON into the duodenum resulting in a complete remission of symptoms.

Learning points

- ▶ Spontaneous fistulisation of infected walled-off necrosis (WON) can occur similar to that of pseudocyst.
- ▶ Abrupt decrease of symptoms in a patient with local complications of acute pancreatitis may be a clinical pointer to internal fistulisation.
- ▶ Spontaneous internal fistulisation of WON can rarely lead to resolution of symptoms, as is in our case.

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Competing interests None.

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