Spontaneous resolution of walled-off pancreatic necrosis. A case report

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Case Report

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Background:
Acute pancreatitis is one of the most common gastrointestinal illnesses in clinical practice. The majority of cases are mild, self-limited, and follow an uncomplicated course.(1) Infected pancreatic necrosis (IPN) has become one of the most frequent underlying reasons for the mortality of the patients with AP. When the pancreatic necrotic tissue is superimposed with infection, the mortality rate could rise to 35–40%. (2)(3) Acute necrotic collection usually develops in the majority (93–100%) of patients with ANP, approximately 15–41% of ANC cases exhibit spontaneous regression, while the rest (49–58%) develop into WOPN. (4)(5) However, the literature reported in this regard is scarce, duodenal fistula (DF) was reportedly thought to be the most common type of GIF secondary to ANP, second only to colonic fistula due to its close anatomic relationship with the pancreas. Despite the high prevalence of IPN associated DF (IPN-DF), no much attention has been given to this area. (13) Very rarely they can spontaneously rupture or fistulize into adjacent structures, leading to either further complications or resolution. More often these events lead to complications rather than resolution of the condition.(17) We present the clinical case of 52 years old female patient of a case of walled-off pancreatic necrosis with spontaneous resolution due to duodenal fistulization.

Keywords: Acute pancreatitis, duodenal fistulization, walled-off necrosis.

Acute pancreatitis is one of the most common gastrointestinal illnesses in clinical practice. The majority of cases are mild, self-limited, and follow an uncomplicated course.(1) Infected pancreatic necrosis (IPN) has become one of the most frequent underlying reasons for the mortality of the patients with AP. When the pancreatic necrotic tissue is superimposed with infection, the mortality rate could rise to 35–40%. (2)(3) Acute necrotic collection usually develops in the majority (93–100%) of patients with ANP, approximately 15–41% of ANC cases exhibit spontaneous regression, while the rest (49–58%) develop into WOPN. (4)(5)

After 4 weeks, and during the late phase of ANP, the ANC is referred to as walled-off pancreatic necrosis (WOPN) which is a pancreatic fluid collection (PFC) consisting of a well-defined wall and a lumen containing liquefied necrosis and fragments of necrotic tissues. (6) In the literature, previously has been designated this entity as: organized pancreatic necrosis(7), necroma(8) pancreatic sequestration(9), pseudocyst associated with necrosis(10) and subacute pancreatic necrosis(11). Gastrointestinal fistula (GIF) is one of the most severe complications of ANP. Occurs in 15–67% of the patients with ANP. (12)

Case report

This is a 52-year-old female patient with no significant personal pathological history, she had one episode of acute biliary pancreatitis 4 weeks ago. Denies alcoholism and smoking; who starts a current condition 9 days prior to admission with the presence of generalized abdominal pain type colic intensity 5/10 transfictive, radiating to the lumbar region, accompanied by nausea and vomiting that later increases to 9/10 with intolerance to the oral route, asthenia, adynamia and hyporexia for which she went to the emergency room to be evaluated. Examinations revelead tenderness on epimesogastrium. Laboratories showed a marked leukocytosis and moderate hyponatremia.Contrast-enhanced CT (CECT) showed a heterogeneous collection adjacent to the head and body of pancreas with a well-defined 2 mm thick wall with air pockets within, dimensions estimated of 104x49x82mm suggestive of infected WOPN. **(Figure 1).**

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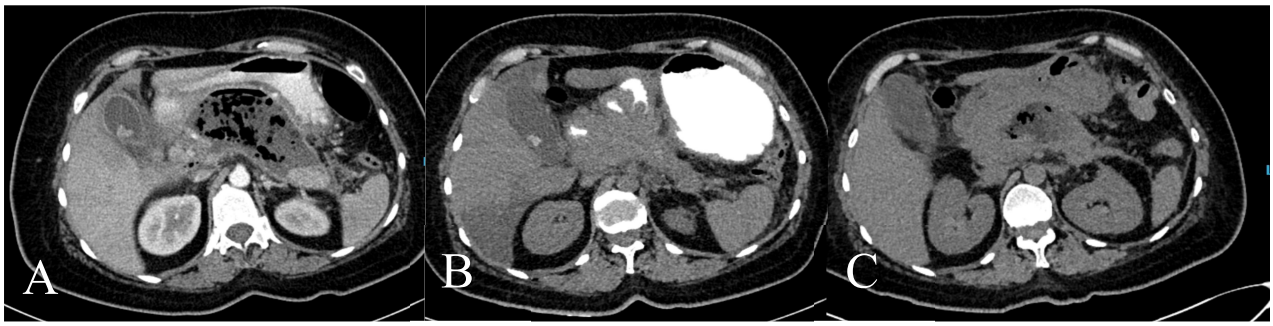

Figure 1. Evolution of the WOPN in computed tomography: A) Admission B) At month C) Third month.

Given the clinical and hemodynamic stability of the patient, medical treatment, double-scheme antibiotic therapy with piperacillin-tazobactam + metronidazole, total parenteral nutrition, and symptomatic management were started.

One week later, with a significant decrease in symptoms compared to admission, it was decided to place a nasojejunal tube to switch to enteral nutrition, for which upper GI scopy was performed, observing the presence of purulent material at the duodenal level and two fistulous opening of 3 mm each one seen with frank pus discharging through it indicating that the infected WOPN had fistulised into the second part of the duodenum. **(Figure 2).**

Due to the sudden and significant symptomatic improvement, one week later, it was decided to manage expectantly on an outpatient basis, with tomographic controls at 6 months with complete resolution of the collection and no evidence of symptoms or related complications.

Discussion

GIF is one of the most severe complications of ANP. Occurs in 15–67% of the patients with ANP. Although the complex process involving the mechanism leading to the formation of GIF was still not well understood, it was commonly thought to be associated with the following 3 reasons: the digestive erosion by the pancreatic enzyme, the surgical trauma and the bowel ischemia due to mesenteric vessel thrombosis. (12)

However, the literature reported in this regard is scarce, duodenal fistula (DF) was reportedly thought to be the most common type of GIF secondary to ANP, second only to colonic fistula due to its close anatomic relationship with the pancreas. Despite the high prevalence of IPN associated DF (IPN-DF), no much attention has been given to this area.(13)

DF is defined as pathological communication that connects any portion of the duodenum with the necrotic cavity or the skin. The diagnosis of DF can be established by fistulography digestive endoscopy or operative findings.

D. Shen, et al demonstrated that DF could usually close spontaneously over time if the infected source could be well controlled and effective nutritional support could be established, on their study after a median of 1.5 months, all DFs healed spontaneously.(14)

Despite the lack of robust information regarding treatment, the step-up approach involving minimally invasive techniques seemed to represent a new paradigm in treating patients with IPN-DF. (15)
In addition to the minimally invasive techniques, endoscopic techniques, such as self-expandable metal stent (SEMS) have also been developed to expedite the recovery of the leakage and achieved good results.(16)

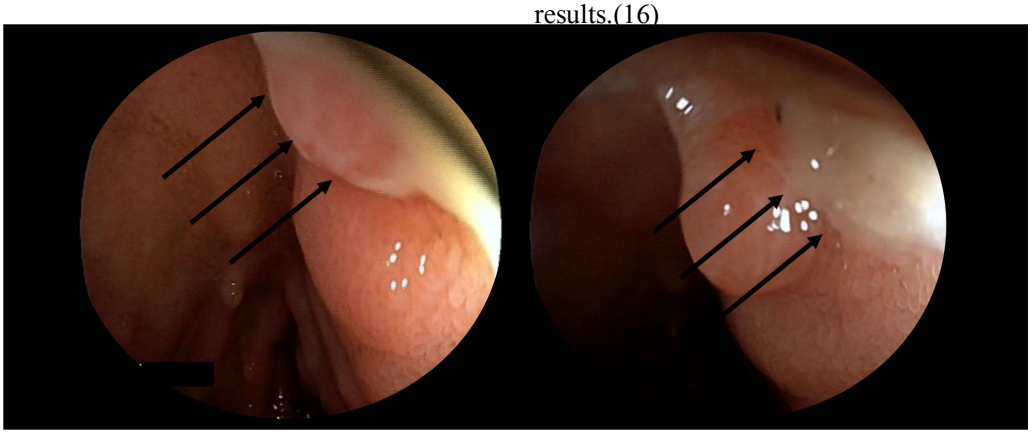

Figure 2. Upper GI scopy: two fistulous opening of 3 mm each one seen into the second part of the duodenum (arrows), with frank pus discharging through.

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Conclusion

Very rarely they can spontaneously rupture or fistulize into adjacent structures, leading to either further complications or resolution. More often these events lead to complications rather than resolution of the condition.(17)

Asymptomatic WOPN does not require intervention regardless of the size and extension of the collection and may resolve spontaneously over time.(18)

Management of walled-off pancreatic necrosis usually depends on whether it is sterile or infected. If the WOPN 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.(17)

Watchfull waiting is safe, effective in 68% of cases, mostly in patients with few symptoms (19)

Conflicts of interests

None declared by the authors.

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