ENDOSCOPIC TREATMENT OF MULTIPLE PANCREATIC ABSCESSES
CASE REPORT AND REVIEW OF THE LITERATURE

Vlastimil Prochazka, Saaba Al-Eryani, Miroslav Herman

Aims: Pancreatic abscesses are treated surgically and the role of endotherapy is still to be established. We describe the case of successful endoscopic management of two pancreatic abscesses in a critically ill patient.

Methods: A patient was admitted to the hospital for severe acute pancreatitis. One month later the patient developed pancreatic sepsis. CT scan showed two large abscesses. The first was bulging to the posterior wall of the stomach and another at the tail of the pancreas. Parenteral antibiotic therapy was administered. The clinical status of the patient rapidly deteriorated and the patient was unfit for surgical intervention. The endoscopic retrograde cholangiopancreatography was performed. The pancreatic duct communicated with the abscess at the tail of the pancreas.

The drainage of this abscess was done transpapillarily. Endoscopic cystogastrostomy was performed to treat the pancreatic abscess that bulged to the posterior gastric wall. A double nasocystic tube was placed for continuous lavage of the abscess. Pseudomonas aeruginosa was cultured and antibiotics were administered according to sensitivity tests. The clinical status returned gradually to normal. A follow-up CT scan 4 months later showed complete resolution of abscesses.

Result: The drainage of the abscesses was done by the means of endoscopic cystogastrostomy and transpapillary stent insertion. This was a minimally invasive intervention, by which we avoided surgical intervention that bears significant mortality and morbidity.

Conclusion: Endoscopic drainage of pancreatic abscesses may be the therapy of choice in such patients mainly because it does not prevent the chance of subsequent surgical intervention if needed.

Abbreviations
Pancreatic pseudocysts (PPs), computed tomography (CT), pancreatic abscesses (PABS).

Introduction
Pancreatic pseudocysts (PPs) are reported to occur after the course of acute pancreatitis in 5 %–10 %1. The resolution of acute sterile PPs occurred in 8–70 % of patients2. The spontaneous resolution of PPs was reported to be higher if occurred after acute pancreatitis3.

Pancreatic abscess arises as a consequence of acute pancreatitis, pancreatic trauma or secondary infection of PPs. They often occur 4 weeks or more after the onset of pancreatitis4.

Over the last decades the endoscopic drainage of PPs has become the therapy of choice for sterile pseudocysts with higher success, lower complications and recurrence rates than surgical approach5,6.

Despite the recent advances in endoscopic technology, pancreatic abscesses (PABS) are still treated surgically and the role of endotherapy is still to be established. Currently there are only a few reported cases regarding the role of endoscopic treatment of PABS with non-uniform results7,8.

Here we describe the case of successful endoscopic management of two large PABS presented in 4 weeks after the episode of acute pancreatitis.

Material and Methods
A 70 years old patient was admitted to the hospital for severe abdominal pain without fever and chills. On admission, the laboratory results revealed leukocytosis 29.10 G/l (normal range 4–10 G/l), raised serum amylase 45.42 μkat/l (normal range 0.47–1.67 μkat/l) and lipase levels 14.5 (normal range 0.22–1.2 μkat/l). The serum C reactive protein on admission was 3.6 mg /l (normal range 0–12 mg/l) and increased to 217 mg/l within 48 hours.

On admission, a computed topography scan (CT scan) showed enlargement of the pancreas with peripancreatic fluid collection and necrosis at the tail of the pancreas without pseudocysts formation (Fig. 1). After conservative treatment the patient’s symptoms resolved and leukocyte count, serum amylase and lipase returned to normal range.

One month later the patient developed fever with leukocytosis (14.93 g/l), elevated serum CRP (356 mg/l) and...
clinical signs of pancreatic sepsis. CT scan showed two large abscesses; the first was bulging to the posterior wall of the stomach (sized 9.5 × 8.5 × 8 cm) and another (sized 7.2 × 5.7 × 6.5 cm) at the tail of the pancreas (Fig. 2, 3).

Parenteral antibiotic therapy was administered and the patient was admitted to intensive care unit. The clinical status of the patient rapidly deteriorated and the patient was unfit for surgical intervention. Informed consent was obtained and endoscopic retrograde cholangiopancreatography (ERCP) was performed and revealed evidence of pancreatic duct stenosis at midbody of the pancreas with retrograde dilatation. The dilated pancreatic duct communicated with the abscess at the tail of the pancreas.

The drainage of this abscess was done transpapillary by inserting a double pigtail stent (Zimmon-5 Fr - 22 cm, Wilson Cooke Medical Inc) after pancreatic sphincter papillotomy and balloon dilatation of the pancreatic duct stenosis (Fig. 4, 5). A purulent material poured via the stent to the duodenum. The stent was repeatedly washed out with normal saline. Endoscopic cystogastrostomy was performed to treat the pancreatic abscess that bulged to the posterior gastric wall. After an incision was made at the maximal bulging of the abscess using a needle knife, a purulent fluid poured into the stomach. Subsequently a balloon dilatation of the incision site was done and a double nasocystic Liguory tube (Wilson Cooke Medical Inc) was placed for continuous lavage of the abscess (Fig. 4, 5).

An aspirated sample of the purulent material was sent for
microbiology and culture studies. Continuous lavage of the abscess took place for one week using Braunol® solution 7.5% (Iodopolyvidonum) at the dilution of 1:40. Two liters of diluted solution per day were used for the continuous lavage during the first three days, and 500 ml per day for the remaining 4 days.

After the procedure, the clinical status of the patient gradually improved.

Pseudomonas aeruginosa was cultured from aspirated content of the abscesses and antibiotics were administered according to sensitivity tests. Temperature and the laboratory parameters returned gradually to normal. A follow up CT scan 6 weeks after the procedure showed only residuals after PABS and minimal changes in pancreatic parenchyma (Fig. 6). Another follow-up CT scan 4 months later showed complete resolution of PABS and disappearance of pancreatic heterogeneity (Fig. 7).

RESULT

The drainage of the abscesses was done by the means of endoscopic cystogastrostomy and transpapillary stent insertion. This was a minimally invasive intervention, by which we avoided surgical intervention that bears significant mortality and morbidity.

DISCUSSION

Patients with PABS are usually treated surgically. The high mortality and morbidity associated with surgical intervention mainly in critically ill patients illustrates the need of less invasive means\(^8\). The PABS are also difficult to manage with percutaneous techniques because of their high recurrence rates (around 20%) and infectious complications that occurred in as many as 50% of patients\(^9\).

Although endoscopic therapy is well established for sterile PP, the experiences with endoscopic drainage of PABS are very limited.

However, only very few reported cases are available regarding the use of endoscopic drainage in the treatment of PABS. The complete resolution observed in some of these studies was encouraging\(^{11}\).
Our patient had two large PABS, one was communicating with the main pancreatic duct and the other was bulging to the stomach. Successfully, we drained the former transpapillarily after pancreatic sphincter papillotomy and balloon dilatation of the pancreatic duct stenosis.

Cystogastrostomy and nasocystic drainage was established for continuous evacuation and lavage of the latter. The procedure was carried out 2 days after the patient developed signs of pancreatic sepsis that was not responding to antibiotic therapy. The purulent appearance of pseudocystic content, its culture as well as the clinical and laboratory improvement after the procedure confirmed the diagnosis of PABS.

CONCLUSION

Our case study demonstrates the safety and effectiveness of endoscopic drainage of pancreatic abscesses. We suggest that endoscopic therapy may be considered as the first-line therapy of PABS because it does not prevent the chance of subsequent surgical intervention if needed. Further studies are needed to determine the definite role of endoscopic drainage in the treatment of PABS.

REFERENCES