Delayed internal pancreatic fistula with pancreatic pleural effusion postsplenectomy

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Abstract

The occurrence of pancreatic pleural effusion, secondary to an internal pancreatic fistula, is a rare clinical syndrome and diagnosis is often missed. The key to the diagnosis is a dramatically elevated pleural fluid amylase. This pancreatic pleural effusion is also called a pancreatic pleural fistula. It is characterized by profuse pleural fluid and has a tendency to recur. Here we report a case of delayed internal pancreatic fistula with pancreatic pleural effusion emerging after splenectomy. From the treatment of this case, we conclude that the symptoms and signs of a subphrenic effusion are often obscure; abdominal computed tomography may be required to look for occult, intra-abdominal infection; and active conservative treatment should be carried out in the early period of this complication to reduce the need for endoscopy or surgery.

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Key words: Pancreatic fistula; Pleural effusion; Splenectomy; Subphrenic effusion; Postoperative complications

INTRODUCTION

A pancreatic fistula is a common complication after pancreatic surgery, trauma, and inflammation, etc. However, the emergence of a delayed postoperative internal pancreatic fistula with pancreatic pleural effusion is still relatively rare. Here we report such a case after splenectomy.

CASE REPORT

A 52-year-old man was admitted to our department for hepatic cirrhosis with splenomegaly and hypersplenism. Physical examination showed a smooth, hard spleen palpated under the left rib margin. Laboratory examinations showed no obvious abnormality except on routine blood examination (white blood count, hemoglobin, and platelet count were 1.90 × 10^9/L, 65 g/L, and 24 × 10^9/L, respectively). Abdominal computed tomography (CT) showed hepatic cirrhosis and splenomegaly. Endoscopic examination showed mild esophageal varice veins without signs of bleeding. Thus splenectomy was conducted and the splenic bed was sewn up with a 4-0 Prolene suture to cover the rough surface of the splenic bed tissue and to prevent subphrenic infection. In the operation, we examined the diaphragm and tail of the pancreas carefully and found no obvious injury. A drainage tube was placed at the left subphrenic fossa. The operation was successful.
During the first 4 d after surgery, the patient recovered smoothly. Amylase in the drainage fluid was normal on the 4th d postoperatively and the drainage tube was removed the following day. Subsequently, however, a fever of unknown origin occurred and fluctuated between 37.5℃ and 40℃ in the following days, without other abnormal symptoms and signs. Then ultrasound examination of the abdomen, including the portal venous system, a chest X-ray, and blood culture were performed to determine the cause, but no obvious positive results were found initially. We had initially considered the cause was spleen fever.

The patient’s condition gradually worsened. Dyspnea and acute heart failure occurred but it was not until the 17th d postoperatively that a left pleural effusion was found in the chest X-ray film (Figure 1A), and a left subphrenic effusion encapsulating about 16 cm × 9 cm was revealed by abdominal CT (Figure 1B). Immediately, abdominal paracentesis and thoracocentesis under ultrasound guidance were conducted, and slightly turbid alutaceous liquid was drained out. Amylase values of the protein-rich fluid from the peritoneal cavity and thoracic cavity were significantly elevated at 19,202 IU/L and 17,531 IU/L, respectively. In the following 20 d, more than 2000 mL sterile fluid were drained from the peritoneal cavity and thoracic cavity were respectively. In the following 20 d, more than 2000 mL sterile fluid were drained from the peritoneal cavity and thoracic cavity were significantly drained out. Amylase values of the protein-rich fluid from the peritoneal cavity and thoracic cavity were significantly elevated at 19,202 IU/L and 17,531 IU/L, respectively. In the following 20 d, more than 2000 mL sterile fluid were drained from the peritoneal cavity and thoracic cavity were significantly drained out. Amylase values of the protein-rich fluid from the peritoneal cavity and thoracic cavity were significantly elevated at 19,202 IU/L and 17,531 IU/L, respectively. In the following 20 d, more than 2000 mL sterile fluid were drained from the peritoneal cavity and thoracic cavity were significantly elevated at 19,202 IU/L and 17,531 IU/L, respectively. In the following 20 d, more than 2000 mL sterile fluid were drained from the peritoneal cavity and thoracic cavity were significantly elevated at 19,202 IU/L and 17,531 IU/L, respectively. In the following 20 d, more than 2000 mL sterile fluid were drained from the peritoneal cavity and thoracic cavity were significantly elevated at 19,202 IU/L and 17,531 IU/L, respectively. In the following 20 d, more than 2000 mL sterile fluid were drained from the peritoneal cavity and thoracic cavity were significantly elevated at 19,202 IU/L and 17,531 IU/L, respectively. In the following 20 d, more than 2000 mL sterile fluid were drained from the peritoneal cavity and thoracic cavity were significantly elevated at 19,202 IU/L and 17,531 IU/L, respectively.

From the treatment of this case, we have come to some important conclusions: (1) a delayed internal pancreatic fistula can occur postoperatively and may require CT of the abdomen to look for occult, intra-abdominal abscesses; (2) patients who continue to have a fever and slow clinical progress may require endoscopic retrograde cholangiopancreatography (ERCP) examination; and (3) active conservative treatment should be carried out in the early period of this complication to reduce the need for endoscopy or surgery.

Figure 1 Imaging of the patient. A: Chest X-ray film showing a left pleural effusion; B: Computed tomography reveals encapsulated fluid about 16 cm × 9 cm in the left subphrenic fossa; C: Abdominal paracentesis (arrow) was conducted and subphrenic effusion decreased significantly.

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