

Gastric Outlet Obstruction Due To Pancreatic Pseudocyst

S Sahu, S Raghuvanshi, S Agarwal, D Bahl, P Sachan

Citation

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Abstract

Pancreatic pseudocysts are the most common cystic lesions of the pancreas, associated with inflammatory and traumatic conditions of pancreas. Most of the pseudocysts usually resolve spontaneously and rarely produce complications. We present a case of pseudocyst of the pancreas, which compressed the first part of the duodenum causing gastric outlet obstruction. Pseudocyst duodenostomy was the procedure advocated.

INTRODUCTION

Pancreatic pseudocysts are localized collections of pancreatic-enzyme-rich fluid usually associated with inflammatory, traumatic and neoplastic conditions of the pancreas and originating in or adjacent to the pancreas. Because these cavities are not lined with an epithelium, pseudocysts are not labeled as true cysts.¹

CASE REPORT

A 32-year-old alcoholic male was admitted with history of pain in the upper abdomen and recurrent vomiting since 8 days. The patient had a previous history of pancreatitis one year back. Vital monitoring at the time of admission showed a pulse rate of 92/min, a blood pressure of 110/70mm Hg and signs of dehydration. Physical examination revealed epigastric tenderness.

Laboratory investigation revealed: hemoglobin 14.2gm/dl, total leukocyte count 11740/cumm and haematocrit 48. Random blood sugar, liver function tests and renal function tests were within normal limits. Serum amylase was 430 IU/L and serum lipase 562 IU/L.

Ultrasonography of the abdomen revealed a large pseudopancreatic cyst in the region of the head of the pancreas. Magnetic resonance imaging showed a pseudopancreatic cyst compressing the first part of the duodenum. (FIG-1), (FIG-2)

The patient was subjected to upper GI endoscopy that revealed an external compression at the level of the first part of the duodenum.

On exploratory laparotomy a large pseudocyst of the

pancreas was found which was compressing the first part of the duodenum causing gastric outlet obstruction. Pseudocyst duodenostomy was done. (FIG-3)

Postoperatively, the patient had an uneventful recovery and was discharged on the 8th postoperative day.

Figure 1

Figure 1: Magnetic Resonance Imaging Of The Abdomen Showing A Pseudocyst Of The Pancreas Compressing The Duodenum.



Figure 2

Figure 2: Magnetic Resonance Cholangiopancreatography (Mrcp) Showing A Pseudocyst Of The Pancreas Compressing The Duodenum Causing Gastric Outlet Obstruction.

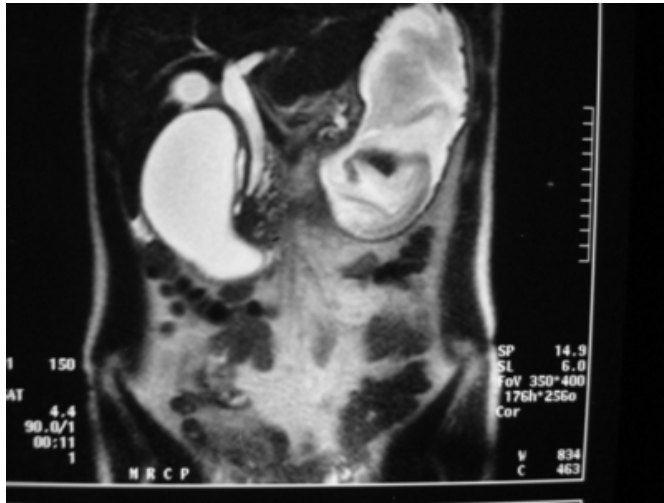
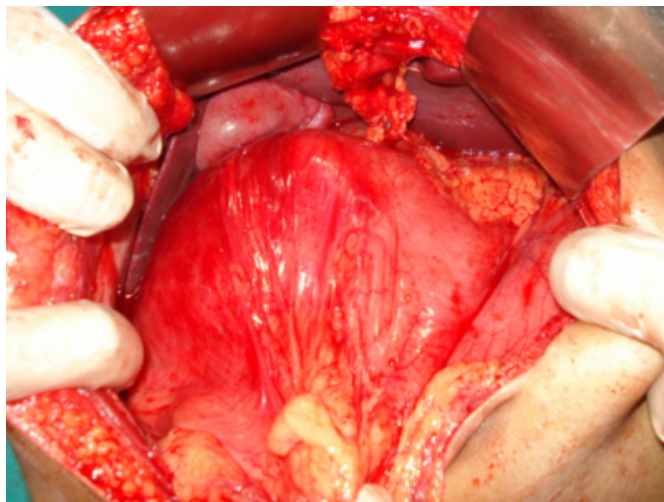


Figure 3

Figure 3: Intraoperative Photograph Showing A Large Pseudocyst Compressing The Duodenum.



DISCUSSION

Pancreatic pseudocysts account for about two thirds of all pancreatic cystic lesions and develop in 10-20% of acute pancreatitis and 20-40% of patients with chronic pancreatitis. Ninety percent of pseudocysts are single. However, different authors quote an 11-18% incidence of multiple pseudocysts in patients with acute and chronic pancreatitis.^{1,2,3,7,8,9}

The pathogenesis of pseudocysts is believed to be due to disruption of the main pancreatic duct or peripheral ductules causing leakage and activation of pancreatic enzymes, which

in turn leads to localized auto-digestion and necrosis of pancreatic parenchyma. This evokes an inflammatory response with the formation of a distinct wall composed of granulation tissue and blood vessels that organizes with more connective tissue and fibrosis without an epithelial lining. It is most frequently located in the lesser peritoneal sac. Large pseudocysts can even extend into the paracolic gutters, pelvis, mediastinum, neck and scrotum. Pseudocysts associated with chronic pancreatitis are generally intrapancreatic.^{4,5,6,27}

Abdominal pain is present in 76-94% of cases of uncomplicated pseudocysts. Early satiety, nausea, vomiting and weight loss are other manifestations of this disease. Physical examination may reveal abdominal tenderness, epigastric fullness or a mass.

A pancreatic pseudocyst may regress spontaneously; persist with or without symptoms or progress to produce complications.⁵

Obstruction of the pancreatic-biliary ducts and stomach is relatively common due to local compression. Duodenal compression causing gastric outlet obstruction is also reported in pseudocysts involving the head of the pancreas. Pseudocysts that compress the duodenum can cause nausea, vomiting and varying degrees of biliary obstruction.^{10,11,31}

Life-threatening complications are reported in 10% of cases of pseudocysts and include hemorrhage due to rupture of pseudo-aneurysms in the wall of the pseudocyst, infection, pseudocyst-peritoneal fistula with resultant pancreatic ascites, gastric or rarely esophageal variceal bleed due to splenic or portal vein thrombosis, and erosion of the pseudocyst into the portal venous system and arteries such as splenic artery, gastroduodenal artery, pancreaticoduodenal artery, gastroepiploic and gastric arteries.^{12,13,14,15,16,34}

Plain abdominal radiography may show a soft tissue mass displacing or compressing surrounding viscera such as stomach, duodenum or transverse colon. Pseudocysts on computed tomography appear as low attenuated homogeneous lesions within or adjacent to the pancreas along with the presence of a well defined, nonepithelial, fibrous wall which may enhance with the addition of contrast.¹⁷

Endoscopic retrograde cholangiopancreatography may reveal a partially or completely obstructed pancreatic duct due to either ductal fibrosis or extrinsic compression by the pseudocyst. Pancreatic ductal leakage may also be revealed

by ERCP. Magnetic resonance imaging may be used as a noninvasive alternative to ERCP.¹⁸

The role of endoscopic ultrasonography has expanded in confirming the diagnosis, locating, determining the wall thickness and drainage of pseudocysts, which may appear as anechoic, fluid filled lesions within a well-defined wall adjacent to the gastrointestinal tract and pancreas. Further Color Doppler ultrasonography of the wall may reveal multiple, prominent vessels and para-gastric varices. Catheter probe endosonography can also be used to localize pseudocysts.^{19,20}

Radionuclide examination in the form of gallium-67 citrate and selenium-75 selenomethionine may detect a photon-deficient mass in proximity to the pancreas, indicating a pseudocyst. Angiography may reveal arterial pseudoaneurysms resulting from vessel erosion by a pancreatic pseudocyst. Fine needle aspiration cytology may differentiate between pseudocysts and cystic neoplasms of the pancreas.^{21,32,33}

Treatment of pseudocysts has traditionally been surgical with drainage of the pseudocyst internally into a hollow viscus. Jeddicka first described pseudocyst gastrotomy in 1921 with pseudocyst duodenostomy and pseudocyst jejunostomy being introduced later. Laparoscopic drainage is also done with success. External drainage using CT/sonography guidance is successful in infected pseudocysts. Small intrapancreatic pseudocysts may be either resected or enucleated. Endoscopic drainage may be either transpapillary (via ERCP) or by transmural approach which depends upon the presence of a bulge into the stomach or duodenum.^{22,23,24,25,26,28,29,30}

CONCLUSION

Pseudocysts are a well-known complication of pancreatitis. Gastric outlet obstruction due to duodenal compression is a very uncommon presentation. Drainage either surgically or endoscopically usually relieves the symptoms.

CORRESPONDENCE TO

Dr. Shantanu Kumar Sahu Assistant Professor, Department of General surgery Himalayan Institute of Medical Sciences Swami Ram Nagar Post- Doiwala Dehradun Uttranchal Mob- 0-9412933868 Email- Intshantanu@yahoo.co.in

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Author Information

Shantanu Kumar Sahu, MS (General Surgery)

Assistant professor, Department of General Surgery, Himalayan Institute of Medical Sciences

Shailendra Raghuvanshi, MD (Radiology)

Assistant Professor, Department of General surgery, Himalayan Institute of Medical Sciences

Sanjay Agarwal, MD (Anaesthesia)

Assistant Professor, Department of General surgery, Himalayan Institute of Medical Sciences

Dig Vijai Bahl, MS (General Surgery), MCh (Cardio-thoracic Surgery)

Professor, Surgery, Department of General surgery, Himalayan Institute of Medical Sciences

Praveendra Kumar Sachan, MS (General Surgery)

Professor and Head, Department of General surgery, Himalayan Institute of Medical Sciences