Clinical Course

A 14 yo male presented with severe abdominal pain associated with nausea and vomiting after sustaining blunt abdominal trauma while playing football. Physical examination revealed generalized abdominal tenderness on deep palpation. Serologic tests noted a lipase of 7774 IU/L, amylase of 1307 IU/L and WBC of 18,000/uL; a computed tomography (CT) scan of the abdomen revealed hemoperitoneum and a pancreatic body laceration. The patient was started on antibiotic therapy and admitted to the Pediatric ICU for observation. He was evaluated by surgery and conservative management was recommended. The patient responded well clinically with resolution of pancreatitis over the course of one week.

An abdominal ultrasound (US) completed on the day of discharge eight days later revealed a 5.8x1.6x1.2cm pancreatic cyst. Upon evaluation one month after discharge, the patient complained of significant reflux with abdominal discomfort; he was found to have a large palpable mass in the epigastrium. Follow-up CT imaging of the abdomen revealed a progressively enlarging well-circumscribed pancreatic fluid collection that had doubled in size. Given the enlarging, symptomatic pseudocyst, a transgastic cystgastrostomy was performed surgically and complete evacuation of the pancreatic fluid collection was achieved; pathologic specimens confirmed a pseudocyst.

Endoscopic transgastric pseudocyst drainage with transmural stenting was successfully performed with large palpable abdominal fluid collection; he was then referred to GI for further management. The patient complained of early satiety and physical exam was notable for recurrence of the pancreatic pseudocyst. Subsequent imaging three months after endoscopic drainage confirmed complete resolution with no complete resolution of the pancreatic pseudocyst. Post surgical abdominal US completed one month later revealed a 5.8x3.6x4.3cm pancreatic cyst. Upon evaluation one month after discharge, the patient complained of significant reflux with abdominal discomfort; he was found to have a large palpable mass in the epigastrium. Follow-up CT imaging of the abdomen revealed a progressively enlarging well-circumscribed pancreatic fluid collection that had doubled in size. Given the enlarging, symptomatic pseudocyst, a transgastic cystgastrostomy was performed surgically and complete evacuation of the pancreatic fluid collection was achieved; pathologic specimens confirmed a pseudocyst.

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Case Report

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Pseudocyst Management Revisited: Failed Surgery Yields Endoscopic Success

Eddie Irions, MD, Veena Nannegari, MD, Vinay Sood, DO

Division of Gastroenterology and Liver Diseases, Albany Medical College and Center, Albany, New York

Clinical Course

Post surgical abdominal US completed one month later revealed a large recurring pancreatic cystic lesion. The patient complained of early satiety and physical exam was notable for recurrence of the large palpable abdominal fluid collection; he was then referred to GI for further management.

Endoscopic transgastric pseudocyst drainage with transmural stenting was successfully performed with complete resolution of the pancreatic pseudocyst.

Subsequent imaging three months after endoscopic drainage confirmed complete resolution with no recurrence of the pseudocyst.

Discussion

Expansion of pseudocysts can produce abdominal pain, duodenal or biliary obstruction, vascular occlusion, or fistula formation into adjacent viscera, the pleural space or pericardium. Digestion of an adjacent vessel can result in a pseudoaneurysm which can produce sudden, painful expansion of the cyst or gastrointestinal bleeding due to bleeding into the pancreatic duct (hemosuccus pancreaticus); pseudoaneurysm is an absolute contraindication to endoscopic therapy unless pre-procedural embolization is performed.

>40% of pseudocysts resolve without intervention; if resolution fails, therapy may be warranted to prevent development of spontaneous infection.

Pseudocyst resolution rates for endoscopic cystgastrostomy range from 65-89%; EUS-guided pseudocyst drainage success is 94% with no mortality reported to date.

Conclusions

* Endoscopic management allows for transpapillary stenting which may be needed if pancreatic duct disruption is a suspected etiology of pseudocyst formation.

* Surgical management of pancreatic pseudocysts is invasive and carries substantial morbidity; therefore, we suggest that surgical management be reserved for cases which are not amenable to endoscopic drainage.

* Despite current literature suggesting surgical management of pancreatic pseudocysts as the "gold standard," endoscopic therapy via endoscopic ultrasound guided transmural pseudocyst drainage is emerging as the method of choice due to its minimally invasive approach and safety and success profile when compared to surgery.

References: