

A YOUNG BOY WITH RECURRENT PANCREATITIS

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ABSTRACT

Background: Anomalous Pancreaticobiliary Ductal Union (APBDU) is a rare congenital anomaly characterised by the union of the pancreatic and bile ducts outside the duodenal wall, resulting in a long common channel and loss of sphincter of Oddi influence. This leads to mutual reflux of pancreatic and biliary secretions, causing recurrent pancreatitis and predisposing to biliary malignancies. **Case Presentation:** We report an 11-year-old boy presenting with recurrent abdominal pain over 2 years, with the current episode associated with fever and jaundice. Laboratory investigations revealed markedly elevated serum lipase, amylase, bilirubin, ALP, and GGT. MRCP demonstrated a bulky pancreas with dilated CBD and distal CBD calculi. Therapeutic ERCP confirmed a Type I Choledochal cyst with APBDU — a long common channel between the biliary and pancreatic ducts. CBD stenting provided symptom relief and the patient was planned for surgical management.

KEYWORDS: *Anomalous Pancreaticobiliary Ductal Union; APBDU; Recurrent Acute Pancreatitis; Choledochal Cyst; ERCP; Pediatric Pancreatitis; Biliary Malignancy.*

INTRODUCTION

Recurrent acute pancreatitis is defined as two or more distinct episodes of acute pancreatitis with a period of complete resolution of symptoms in between, without the presence of chronic changes in the pancreas. Most common causes in children include common bile duct stones or sludge, pancreas divisum, sphincter of Oddi dysfunction, and hereditary causes. Rarely, anomalous union of biliary and pancreatic ducts causes recurrent episodes of pancreatitis secondary to reflux of biliary secretions into the pancreas due to a long common channel.

In patients with idiopathic recurrent acute pancreatitis, particularly young patients, APBDU should be a differential. Patients with APBDU have increased cellular proliferative activity of the gallbladder mucosa

even in early childhood, predisposing to risk of neoplasms in adulthood.

Gallbladder carcinoma and bile duct neoplasms can occur with increased risk in the presence of congenital biliary dilatation — 32.1% versus 7.3% in patients without biliary dilatation. Malunions were seen in 62.5% of adults with gallbladder cancer, in 50% of patients with gallbladder adenomyomatosis, and in 33.3% of patients with bile duct cancer. Moreover, the incidence of biliary cancer is 15–20 years earlier in patients with APBDU. EUS and ERCP play a major role in early diagnosis of anatomical abnormalities of the pancreaticobiliary junction, thereby preventing further complications.

CASE REPORT

An 11-year-old boy presented with pain abdomen for 3 weeks, radiating to the back. The patient had a past

history of 3–4 episodes of similar abdominal pain over the past 2 years; however, the current episode was associated with fever and jaundice. Per abdomen examination revealed a soft, non-distended abdomen with tenderness in the epigastric and periumbilical regions, no organomegaly, and no palpable mass. There was no family history of pancreatitis.

On evaluation

- Serum lipase >700 U/L, amylase >1200 U/L with raised serum total bilirubin, ALP, and GGT levels.
- Serum calcium and triglyceride levels were normal.
- USG abdomen and MRCP were suggestive of bulky pancreas with dilated common bile duct and calculi obstructing the distal CBD.

A preliminary diagnosis of biliary pancreatitis was made and the patient was evaluated for haemolysis. Serum LDH levels were normal, indirect and direct Coombs test was negative, and Hb electrophoresis was normal.

ERCP Findings and Diagnosis

The patient underwent therapeutic ERCP, which revealed a fusiform dilatation of the CBD and CHD, suggestive of Type I Choledochal cyst. A long common channel between the biliary and pancreatic ducts was identified, consistent with Anomalous Pancreaticobiliary Ductal Union (APBDU). CBD stenting was performed and the patient was relieved of symptoms. The child was planned for surgical management.

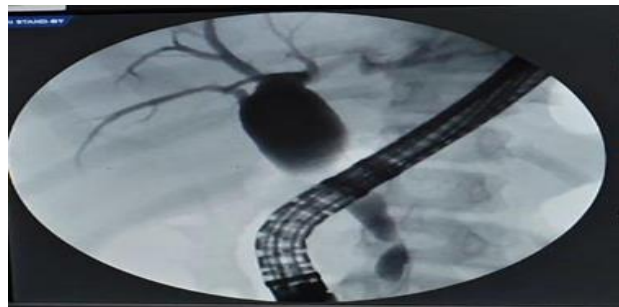


Figure 1. ERCP fluoroscopy showing dilated common bile duct and biliary anatomy.

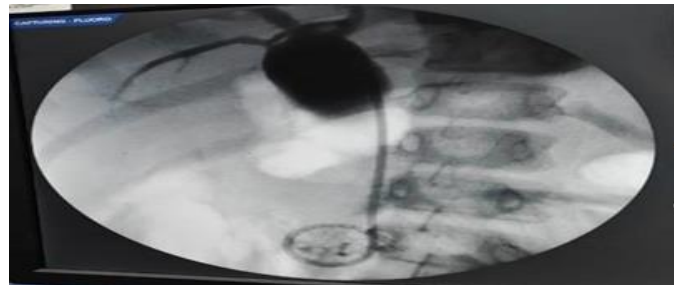


Figure 2. ERCP image demonstrating choledochal cyst with CBD stent in situ.

DISCUSSION

APBDU is a rare congenital anomaly with a frequency of 1.5%–3.2%. In APBDU, pancreatic and bile ducts join outside the duodenum and form a long common channel (usually >13 mm) owing to absence of septum between the ducts. Since the abnormal union occurs outside the duodenal wall, the influence of the sphincter of Oddi is lost, allowing reflux of pancreatic exocrine secretions into the biliary system and bile into the pancreatic duct, leading to inflammation of the pancreas.

APBDU can rarely present as recurrent acute pancreatitis (RAP) or chronic pancreatitis (CP). Recurrent acute pancreatitis in children and young adults is caused by genetic mutations, ductal obstruction, drugs, metabolic causes, and rarely autoimmune aetiology. Among the obstructive causes, pancreatic divisum and gallstones are associated with RAP. APBDU is considered among the rare causes of pancreatitis in children and young individuals.

Recent data have suggested that a markedly elevated amylase concentration can be detected in the bile of patients with a common channel of 5 mm or greater, with bile stasis intermixed with refluxed pancreatic secretions. The anomalous union is often associated with a choledochal cyst and can be associated with gallbladder and ampullary carcinoma, which necessitates early diagnosis of APBDU before complications develop. APBDU can cause pancreatitis by biliopancreatic reflux, obstruction of the long common channel by gallstones or protein plugs, and ductal hypertension due to pancreatic drainage via the minor papilla. ERCP remains the gold standard investigation for APBDU.

CONCLUSION

In patients with idiopathic recurrent acute pancreatitis — particularly young patients — APBDU should be considered as a differential diagnosis. EUS and ERCP play a major role in the early diagnosis of anatomical abnormalities of the pancreaticobiliary junction, thereby preventing further complications. The complications and

long-term sequelae of acute pancreatitis, combined with the risk of biliary cancer in young patients, warrant early and judicious management.

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