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Acute Pancreatitis Due to Ascariasis in A Child

KEYWORDS: Ascariasis, Acute pancreatitis, Ultrasonography

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ABSTRACT – *A rare and unrecognised complication of ascariasis in children is acute pancreatitis. Although usually asymptomatic, ascariasis can lead to biliary or intestinal obstruction and very rarely obstruction of the main pancreatic duct due to its smaller lumen. Here we report a case of ascariasis in the main pancreatic duct, which is not a common site, presenting as acute pancreatitis and recovering uneventfully with conservative management.*

Introduction

Ascaris is the commonest helminthic infection worldwide (1). The global incidence of acute pancreatitis as a result of Ascaris infection is unknown as many cases remain undiagnosed. In various case studies in India hepatopancreatic ascariasis was found to be responsible for 23% of cases of acute pancreatitis (2). Ascariasis infestation in intestine is usually asymptomatic. But it creates problems when it enters the hepato pancreato-biliary system when there is heavy duodenal infestation. However, invasion of the pancreatic duct is rare, presumably secondary to its smaller caliber and a part of the worm usually remains in duodenum (3). The worm usually moves back into the duodenum in 24-48 hours after producing biliary or pancreatic symptoms or both. The prognosis of Ascaris induced pancreatitis is excellent if the patient is diagnosed and treated early.

Case report

An 8 year old male child presented with 6 days history of pain abdomen and vomiting. Child was afebrile, restless, dyspnoeic and sweating profusely at the time of admission. There was history of passage of abundant round worms for 2 days after taking oral Albendazole. There was no history of parotid swelling, gallstones, blunt abdominal trauma or any prolonged febrile illness. She never underwent any major surgical procedure and had never been on any specific medication. At admission, he was afebrile and there was no clinical evidence of pallor or icterus. He had a heart rate of 96/min, Blood pressure of 100/70 mm of Hg and SPO_2 of 99% on room air. Abdominal examination revealed distension with diffuse tenderness and muscle guarding. Bowel sounds were present and there was no fluid thrill or shifting dullness. Rest of the systemic examination was unremarkable. He was kept on intravenous fluids and Pantoprazole and antispasmodics. Investigations revealed Hb of 11gm%, total leucocyte count of 17000/mm^3 (74% polymorphs and 22% lymphocytes) and ESR of 31.5mm at the end of first hour. Serum amylase was 1543.8 U/L and serum lipase was found to be 6025.5 U/L. Rest of the biochemical evaluations including LFT and KFT were unremarkable. Routine microscopic examination of stool revealed cyst of giardia lambia and ova of Ascaris lumbricoides. Ultrasonography (USG) of whole abdomen revealed swollen hypoehoic pancreas and live round worm in pancreatic duct jutting into duodenum with feature suggestive of acute pancreatitis (Figure-1&2). He was continued on conservative management. 5 days later repeat serum amylase was 320.7 U/L and serum lipase was 471 U/L. He remained hemodynamically stable throughout the course of treatment and never required inotropes or respiratory support. He was started on oral feeds which were tolerated well. Follow up USG at discharge didn't show any worm in the pancreatic duct. He was discharged on 10^{th} day of admission on oral Albendazole. At 1 month follow up he was asymptomatic with a normal pancreas with no evidence of worm on ultrasonography.

Discussion

It is estimated that 25% of the world population is infected with Ascaris lumbricoides; making this most common infection worldwide (4). Most infections are asymptomatic but can produce a wide spectrum of symptoms including malaise, fever, headache, nausea, diarrhoea, dyspnoea and pneumonia. Khuroo et al (5) reported 500 cases in India of hepatobiliary and pancreatic diseases due to ascariasis but no case of pancreatitis in children has been reported by them.

Ascaris causes pancreatitis due to obstruction of papilla of vater; invasion of common bile duct (CBD) or invasion of pancreatic duct. Ascension of parasite into pancreatic duct and calcified worm and ova has been implicated in pancreatitis (6). The worms move freely in and out of the hepato pancreato-biliary tree and therefore can be easily missed. Stool studies may show Ascaris ova and dead worm; parasite detection by stool examination for ova may approach 100%. The diagnosis of pancreatic ascariasis can be done with ultrasonography, endoscopic retrograde cholangio pancreatogram (ERCP), computed tomography (CT) or magnetic resonance cholangio pancreatogram (MRCP). Ultrasonography is a simple, non-invasive and highly accurate test reflecting the worm morphology which may be single or multiple, long, linear echogenic strips without acoustic shadowing in the biliary or pancreatic ducts (strip sign) (7). USG has the sensitivity of 50% to 86% for worms in biliary tree but sensitivity of detecting worms in pancreatic duct is not known (8). ERCP allows better identification of worm in duodenum and pancreaticobiliary tree while providing a safe therapeutic option for removing worm. A CT scan can also be useful for diagnosis but has a lower sensitivity than ultrasonography. Though not routinely used, MRCP findings of pancreatic Ascaris have been best demonstrated on T2-weighted images as linear filling de-

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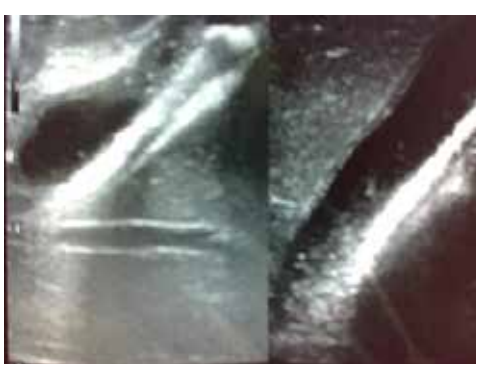
fects within a dilated pancreatic duct (9). The worm enters the pancreatic duct only as a result of abnormal migration. While intestinal obstruction is more common in children; pancreatic ascariasis; unlike in adults is rare. Ascaris related clinical disease is not just restricted to patients with massive worm load but may be seen with even a single worm lodged in biliary tract and negative parasite test in stool. With appropriate conservative management, worms spontaneously return to the duodenum in 98% of children (10). Parenteral antispasmodics to relax the sphincter, analgesics for pain, intravenous fluid and bowel rest are recommended during acute attacks. In these cases, endoscopic intervention is reserved for patients who fail conservative therapy or have worms in the ducts after 3 weeks of observation (10). Anthelmintic therapy with Mebendazole or Albendazole started once the acute attack subsides is effective in eradicating ascariasis in 84-100% of cases (3).

Figure 1&2: Ascaris in pancreatic duct



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