Recurrent pancreatitis secondary to pancreatic ascariasis

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ABSTRACT

***Ascaris lumbricoides* infestations are endemic in tropical countries. *Ascaris lumbricoides* can occasionally cause biliary obstruction and result in obstructive jaundice or pancreatitis. We present a 34-year-old Bangladeshi woman with biliary ascariasis, resulting in recurrent pancreatitis. Her diagnosis was made with endoscopic retrograde cholangiopancreatography performed during an acute attack of pain.**

Keywords: *Ascaris lumbricoides*, biliary ascariasis, biliary obstruction, parasitic infection, recurrent pancreatitis

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INTRODUCTION

Ascariasis is caused by the nematode, *Ascaris lumbricoides*, commonly found in the tropics. These parasites are transmitted via the faeco-oral route. Their eggs hatch in the small intestines and the larvae migrate through the gut wall into the bloodstream and to the alveoli. They subsequently move up the respiratory tract to the trachea and are swallowed. The larvae mature in the small intestines, deriving nutrients from ingested food. Most infections are asymptomatic. Common manifestations include malnutrition or Loeffler's pneumonia (fever, cough and eosinophilia due to a heavy larvae burden). There are, however, reports of ascariasis in the biliary and pancreatic ducts that cause complications.[1-6] We report a patient with pancreatitis whose aetiology remained elusive. She was diagnosed with idiopathic pancreatitis during her past two hospital admissions. The recurrence of abdominal pain mandated re-hospitalisation, and her diagnosis was made with endoscopic retrograde cholangiopancreatography (ERCP), done at the time of an acute attack of colic. ERCP revealed ascariasis in the common bile duct.

CASE REPORT

A 34-year-old woman was hospitalised for abdominal pain. She recently migrated to Singapore from Bangladesh. She had two previous admissions in Bangladesh in the past six months with similar complaints. She had been worked up extensively for abdominal pain and was diagnosed as having idiopathic pancreatitis. She had no other medical history of note and did not consume alcohol. During her past two hospital admissions, she was not subjected to ERCP as imaging and serum biochemistry did not suggest a biliary cause of pancreatitis. During this admission, an informed decision for ERCP was made by the gastroenterological and hepatobiliary surgical team. No obvious cause of pancreatitis was noted. Endoscopic ultrasonography was also done, and this showed hyperechoic foci in the pancreatic body and tail. The ERCP was normal.

Fig 1 Endoscopic photograph shows a worm in the common bile duct.

Post-ERCP, the patient complained of severe abdominal pain, and there was a high suspicion of post-ERCP pancreatitis. Her amylase was raised at 645 U/L. No other blood abnormalities were noted. She was treated symptomatically with intravenous fluids, antibiotics and analgesic. A repeat ERCP was performed during the attack of abdominal pain. On the repeat ERCP, a round worm was seen in the common bile duct. The worm was extracted with a pair of forceps. Antihelminthic medicine was prescribed for the patient and the worm histology confirmed it to be *Ascaris lumbricoides*. The patient subsequently recovered with a reduced amylase level of 208 U/L, and she was well when discharged.

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The patient was followed up for one year, and as she remained asymptomatic with no recurring attacks of abdominal pain, she was discharged from further follow-up.

DISCUSSION

Ascaris lumbricoides is a common parasitic infestation that is known to infect more than a billion people worldwide.[3] Endemic areas include tropical and subtropical countries. The warm and humid climate is appropriate for the growth and development of the larva. This parasite is transmitted via the faeco-oral route and commonly infects populations with poor sanitation and hygiene. The egg hatches in the duodenum, and the larva penetrates the mucosa to enter the blood stream. The larva reaches the lung alveolus and migrates to the oropharynx. Then it is swallowed and matures into an adult worm in the gastrointestinal system again to feed off the host's ingested food.

Common clinical manifestations of this parasite include malnutrition, symptoms of intestinal obstruction and also pneumonitis, if the larvae load is high. However, there are also many case reports of this parasite obstructing the biliary tree, causing cholangitis and pancreatitis. Pancreaticobiliary ascariasis commonly occurs with a background history of cholecystectomy and sphincterotomy. Ultrasonography of the biliary system is the investigation of choice to reveal the aetiology of pancreatitis. It is capable of detecting stones and has been shown to be able to detect ascariasis.[4] ERCP acts as a good follow-up procedure that is both therapeutic and diagnostic. It is able to find the cause of pancreatitis in 50% of those that remain elusive with an ultrasonography. Most intraluminal obstructions are removable with the ERCP. There is a postulated female preponderance for biliary ascariasis due to the ampullary smooth muscle relaxing effect of the hormone progesterone.

Our patient presented with multiple episodes of pancreatitis, for which the aetiology was initially unknown. Sandouk et al reviewed 300 patients with pancreatic ascariasis in Syria and showed that ultrasonography, together with clinical findings, are the mainstay of diagnosing pancreatic ascariasis.[4] This is echoed by another review of 14 patients with biliary ascariasis.[1] The failure to diagnose ascariasis in our case may be due to the migration of the worm out of the biliary ducts during the investigations. The patient also had normal liver enzyme levels, further clouding the possibility of an obstructive cause of pancreatitis. It was only through a repeat ERCP that the worm was discovered and subsequently removed. The studies mentioned above reported that ERCP is the mainstay treatment for biliary ascariasis. In cases where the worm cannot be reached by conventional ERCP, Sandouk et al have suggested using the whirlpool jet technique.[7] Following the extraction of the worm and the subsequent administration of anti-parasite medicine, the patient went on to be well at discharge.

This case illustrates that the diagnosis of pancreatic ascariasis should be considered even in non-endemic countries. We also recommend early ERCP to be performed at the time of colic when pancreaticobiliary ascariasis is suspected.

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