CASE REPORT

An unusual cause of pancreatitis in a 46-year-old returning traveller

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SUMMARY

A 46-year-old previously fit and well man, travelled to Jhelum, Pakistan for 6 weeks in early 2015. Four weeks after returning to the UK, he developed sudden onset epigastric pain, vomiting and fever. C reactive protein was 232 mg/L and amylase was 2061 U/L. He was treated conservatively as pancreatitis, with peripancreatic streaking and left colic gutter fluid on a CT abdominal scan. He was discharged and later attended the Hospital for Tropical Diseases, after coughing up an 8 cm male ascaris worm. He was treated for acute ascariasis infection, complicated by resolved mild-moderate pancreatitis, a common complication in the developing world but rarely seen among travellers.

BACKGROUND

- *Ascaris lumbricoides* infection in the developed world is primarily seen among travellers. The worldwide burden is, however, very high—as much as 25% of population of the developing world is infected.
- In Europe and the USA, in areas with high density immigrant populations, ascaris infection is an important differential diagnosis in patients presenting with pancreatitis without classic risk factors, for example, known gallstone disease, ethanol abuse, hypercalcaemia or dyslipidaemia.
- Left untreated, there is potential for recurrent pancreatitis in patients as the ascaris worm completes each life cycle, as well as other hepatobiliary, pulmonary and gastrointestinal complications. Endoscopic retrograde cholangiopancreatography can be used to remove the parasite.

CASE PRESENTATION

Presenting complaint: A 46-year-old man presented to his local hospital in the UK with acute onset vomiting, epigastric pain, fever and diarrhoea.

History of presenting complaint: His abdominal pain was epigastric in nature, radiating to the umbilicus, and associated with three episodes of vomiting without blood and three to four episodes of semiformed, loose diarrhoea. He felt general malaise, but had no prodromal symptoms.

He had no history of gallstones or biliary colic, had a normal cholesterol level, had never drunk alcohol and had no personal or family history of pancreatitis.

Medical history: He had a history of renal calculi, but it was never treated and never caused obstruction.

Surgical history: He had had no previous operations.

Drug history: No allergies, and had not taken any regular or over-the-counter medications.

Social: Lifetime never-drinker and non-smoker, and had never used recreational drugs.

Family history: No history of hepatobiliary disease or of familial hypercholesterolaemia.

Travel history: The patient spends 1–2 months every 1–2 years in Jhelum, Pakistan. Had most recently travelled for 2 months over Christmas, arriving back in the UK 4 weeks prior to presentation. While away, he stayed in his own house in an urban area, drank non-bottled, local water, had no contacts with unwell adults or children and no contact with pets or other animals. He recalled no episode of illness while travelling.

He was admitted to his local hospital and found to have a tense, painful epigastrium with periumbilical tenderness; he was haemodynamically stable and had normal saturation on room air, and good urine output. Heart and lung examinations were normal.

He was managed with intravenous fluid support and conservative observation.

He was discharged once inflammatory marks and amylase had normalised, and when he was symptomatically better.

Twelve days after discharge, the patient experienced some pharyngeal discomfort associated with a dry cough. After 1 day he vomited an 8 cm male ascaris worm (figure 1), which he brought to the tropical walk-in clinic at our hospital.

On review, he had a newly developed mild generalised pruritus, a soft abdomen, clear chest and normal heart sounds and funduscopy.

INVESTIGATIONS

On admission day 1 to his local hospital, the patient's haemoglobin (Hb) was 15.4 g/dL, white

Figure 1 An 8 cm ascaris male worm 'coughed up' by the patient in clinic.

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Figure 2 CT images of pancreas on admission showing peripancreatic streaking and paracolic gutter fluid.

cell count (WCC) $12.9 \times 10^9/L$, neutrophils $10.3 \times 10^9/L$, eosinophils $0.3 \times 10^9/L$, C reactive protein (CRP) 232 mg/L and amylase 2061 U/L.

A suboptimal study of ultrasound scan of the abdomen did not identify gallstones. CT of the abdomen identified peripancreatic streaking and fluid in the left paracolic gutter, suggestive of pancreatitis. There was no evidence of pneumoperitoneum (figure 2). Chest X-ray showed no infiltrates (figure 3).

On discharge day 7, the patient's Hb was 12.6 g/dL, WCC $9.2 \times 10^9/L$, neutrophils $6.6 \times 10^9/L$, eosinophils $0.3 \times 10^9/L$, CRP 80 mg/L and amylase 88 U/L.

On clinic review at our hospital on day 19 after initial presentation, the parasitology report given was of an 8 cm male ascaris worm (figure 1), with stool ova, cysts and parasites (OCP) normal. The patient's Hb was 14.1 g/dL, WCC $8.8 \times 10^9/L$, eosinophils $1.49 \times 10^9/L$ and CRP 0.2 mg/L.

DIFFERENTIAL DIAGNOSIS

- ▶ Idiopathic pancreatitis
- ▶ Cholesterol-induced pancreatitis
- ▶ *Ascaris* migratory hepatopancreatobiliary (HPB) pancreatitis—based on the ascaris worm identified from the patient—were the possible differential diagnoses.

Figure 3 Chest X-ray on admission and on clinic review showing no evidence of pulmonary involvement.

TREATMENT

The patient was treated with a single dose of mebendazole 500 mg.

OUTCOME AND FOLLOW-UP

No further follow-up was required, and the patient was instructed to monitor stool for passing of parasites and to return if he had any concerns.

DISCUSSION

Ascaris lumbricoides is a roundworm parasite with a life cycle of 2 months, involving the migration of the immature parasite through the biliary tree, pulmonary tissue and the gastrointestinal tract.¹ Infection can be life-long, associated with weight-loss and anaemia, but it is often asymptomatic. Ascariasis has a significant worldwide disease burden,² and hepatobiliary disease is common.³ Worm emesis is common in the developing world.⁴ Pancreatitis is an uncommon complication of biliary ascariasis, with one study reporting an incidence of 3.4%.⁴ In endemic areas, ascariasis has been reported as the aetiology in as much as 23% of acute pancreatitis cases.⁵ Imported ascariasis is rarely seen in the UK—but it is possible that the disease burden is underestimated due to the occult nature of infection. To the authors' knowledge, there are no reported UK cases of imported ascariasis pancreatitis. Ascariasis is extremely sensitive to antihelminthic treatment, with an estimated treatment success rate with mebendazole from 84–100%,⁶ although some cases of hepatobiliary infection may require endoscopic retrograde cholangiopancreatography (ERCP).⁴

Learning points

- ▶ Ascariasis is a significant global health issue, and a common cause of pancreatitis in developing countries.
- ▶ Ascariasis should be thought of in patients with pancreatitis without traditional risk factors, returning from endemic zones.
- ▶ The diagnosis of ascariasis is dependent on timing of the life cycle. Eosinophilia is usually only present during pulmonary migration, and stool microscopy will only reveal ova or adult worms in the intestinal phase.
- ▶ Without treatment, ascaris can continue to cause recurrent complications throughout the life cycle.

Competing interests None declared.

Patient consent Obtained.

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