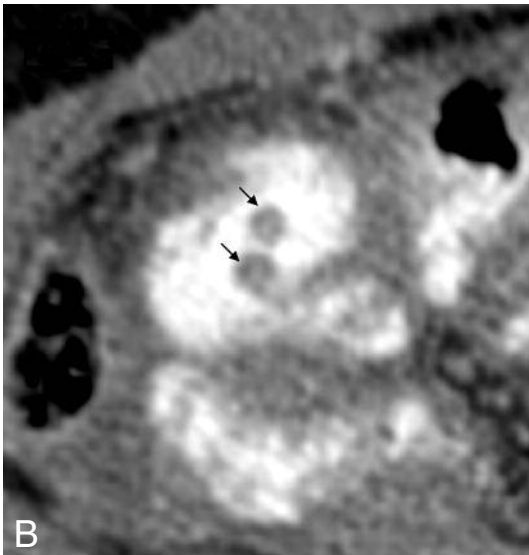
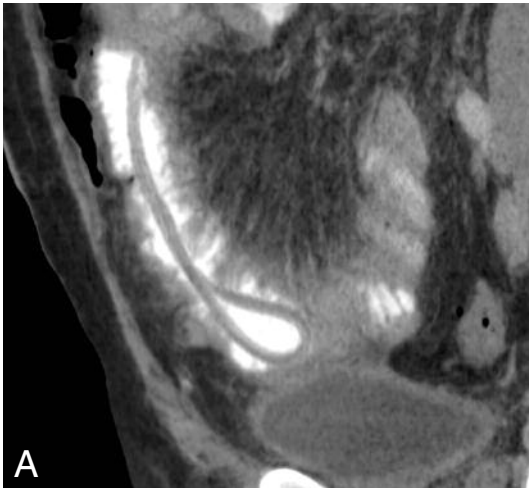


## IMAGES IN CLINICAL RADIOLOGY



### *CT imaging of ascaris lumbricoides*

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A 37-year-old man was referred to the department of internal medicine for chronic fever, asthenia and loss of weight. He had no relevant medical history but reported frequent travels to Africa. Abdominal-CT study with contrast agent injection and oral digestive opacification was performed and revealed pleuropertitoneal and pericardial effusions with multiple mediastinal and mesenteric lymphadenopathies. Bronchoalveolar lavage and sputum expectoration analyses demonstrated systemic tuberculosis.

Moreover, CT series fortuitously revealed a tubular defect in the contrast filled lumen of the ileum. The abnormal structure measured around 25 cm in length and 0.4 cm in width (Fig. A - frontal view, thick minIP reconstruction), with a central thin white line (Fig. B,C - axial views - arrows). These features were very suggestive of an intestinal worm, most likely *Ascaris lumbricoides* (AL), without any link with his symptoms and his tuberculosis infection. The central thin white line corresponding to ingested barium in worm gut.

#### *Comment*

AL is a rounded intestinal worm characterized by its great size (males are 2-4 mm in diameter and 15-31 cm long, females are 3-6 mm wide and 20-49 cm long). AL is the most common human intestinal parasite and infects about a quarter of the world population, but is quite rare in western European population. Most patients are asymptomatic; however AL occasionally provokes poorly localized cyclic abdominal pain in adults. In children, volvulus, intussusception or intestinal obstruction may occur. Occasionally, the adult *Ascaris* worm may migrate into the Vater's ampulla and enter the bile duct, gall bladder or pancreatic duct, leading to a variety of complications such as biliary colic, gallstone formation, cholecystitis, pyogenic cholangitis, liver abscess and pancreatitis.

Infection occurs with AL eggs contaminated water or food. Larval worms penetrate the wall of the duodenum and migrate by venous or lymphatic circulation to pulmonary arterioles and alveoli to grow. After 3 weeks, the larvae pass from the respiratory system to be coughed up, swallowed, and thus returned to the small intestine where they mature to adult male and female worms.

AL can be observed on CT and RX with oral digestive opacification, but also on MRI series or ultrasonographic exams. MRCP sequences reveal hypointense elongated tubular filling defect in hyperintense intestinal fluid. High-frequency sonographic transducer can reveal typical long echogenic structure with four parallel echogenic lines, corresponding to the outlines and the gut of the worm.

Prove diagnosis of AL infection is obtained by stools analyses, identifying ova and parasites.

Treatment on the AL consisted on oral administration of Mebendazole (100 mg, 2 doses a day for three days).