Ascariasis Clinical Features and Management

PLAY PICMONIC

Early Clinical Manifestations

Cough

Coffee-coughing at start of race

In patients with ascaris infection who go on to develop symptoms, the exact clinical manifestations will depend largely on how late or early they present in the course of the infection. Early manifestations of ascariasis are typically localized to the respiratory tract, as larvae are migrating through the blood stream to the lungs, where they will subsequently be coughed up and swallowed back into the gastrointestinal tract. Of note, patients with respiratory symptoms due to ascariasis will typically have normal findings on chest radiograph.

Eosinophilic Pneumonitis (Loffler Syndrome)

Eosinophil-eagle with eosinophil-lungs-on-fire wearing loafers

The early pulmonary manifestations of ascariasis are characterized by a pneumonitis with eosinophilic reaction to larvae infiltrating the lungs. This pulmonary manifestation is commonly referred to as Loeffler or Loffler syndrome. Of note, several other parasites such as Strongyloides, lumbrioides, and Necator americanus can exhibit pulmonary involvement leading to Loffler's syndrome.

Late Clinical Manifestations

GI Upset

Upset GI-guy in later leg of race

Patients with ascariasis who present later in their disease course will typically complain of primarily gastrointestinal symptoms. Most commonly, patients will complain of some degree of gastrointestinal upset, such as abdominal pain, nausea, or vomiting.

Bowel or Biliary Obstruction

Dilated-bowel bill-duck obstructing the race track

Patients with symptomatic ascaris infection who present late in the disease course may develop a bowel or biliary obstruction due to adult worms inhabiting the gastrointestinal or biliary tracts. Bowel obstruction may manifest clinically as bloating and distension, constipation, and vomiting with oral food intake. To develop a bowel obstruction, patients typically must have a significant infection burden of >60 worms.

Worms in Stool

Worm on stool

One of the most specific and unmistakeable findings in late-stage ascariasis infection is the passage of visible adult worms in the stool. This may not necessarily be seen in all patients however, therefore its absence does not rule out ascariasis.

Diagnosis

Stool Ova and Parasite Studies

Doctor examining Stool-egg and Worm

In patients suspected of having ascariasis due to a combination of clinical symptoms and relevant epidemiologic exposure, diagnosis is established via stool examination for ova or adult worms. Of note, ova will not appear in the stool until after approximately 40 days of infection, therefore diagnosis cannot typically be definitively established during the early respiratory phase of the infection. Stool ova and parasite examination for ascaris involves specific staining techniques that are beyond the scope of what you will likely need to know.

Management

Albendazole

Abe-Bond

Treatment of ascarisis consists of administration of anti-parasitic agents. The most preferred agent is albendazole, as it has been shown to be effective in resolving nearly all ascaris infections with a single oral dose. Albendaole acts by blocking microtubule polymerization in the parasite, leading to impaired egg production and degenerative alterations within the worm's gastrointestinal tract.

Pyrantel Pamoate In Pregnancy

Pregnant Pirate Pomeranian

Given potential teratogenicity of albendaole and related medications, women in the first trimester of pregnancy should be treated with pyrantel pamoate, which is effective in resolving approximately 90 percent of infections. Pyrantel pamoate acts by causing neuromuscular blockade and paralysis of adult worms.