

Lymphatic Filariasis Diagnosis and Management



PLAY PICMONIC

Clinical Features

Swelling of the Legs

Swollen Legs

Chronic lymphatic filariasis can cause swelling of the legs (lymphoedema), skin/tissue thickening of limbs (elephantiasis), and hydrocele. Symptoms can occur years after being infected. It is important to note that a small percentage of individuals may develop lymphedema, a fluid buildup due to poor lymphatic system function. This condition can primarily affect the legs but may also occur in the arms, breasts, and genitalia.

Hydrocele

Hydrant-seal

Patients with scrotal swelling, known as hydrocele, typically do not improve with Diethylcarbamazine treatment despite hydrocele as a sign of possible active infection. The recommended treatment is surgery.

Diagnosis

Blood Smear

Blood Smear on Glass

Diagnosing an active filariasis infection involves identifying microfilariae in a blood smear through microscopic examination.

Microfilariae

Small-filer

Microfilariae should be seen in a blood smear. Blood sample thick smears from lymphatic filariasis patients should be made and stained with Giemsa or Hematoxylin and Eosin. Concentration techniques can also be utilized to increase test sensitivity.

Night Test

Nighttime Test-tube

It is essential to collect blood samples at night to diagnose lymphatic filariasis. Known as nocturnal periodicity, night is when the microfilariae are circulating in the blood.

Antifilarial IgG4

Ant-tie-filer (IgG) Gold-goblin Holding a (4) Fork

Serologic techniques offer an alternative to the microscopic detection of microfilariae for diagnosing lymphatic filariasis. Routine assays can detect elevated levels of antifilarial IgG4 in the blood of patients with active filarial infection.

Managament

Ivermectin

[Ivory-mech-man](#)

Patients who have onchocerciasis should not receive Diethylcarbamazine, as it could worsen the condition of onchocercal eye disease. In countries where onchocerciasis is prevalent, the recommended drug to treat Lymphatic Filariasis is Ivermectin. The recommended treatment in these countries is Ivermectin 200 mcg/kg combined with albendazole 400 mg.

Albendazole

[Abe-Bond](#)

To eliminate lymphatic filariasis, the WHO recommends a strategy called mass drug administration (MDA). The process includes administering a yearly dose of medication to the entire population that is susceptible to the disease. The specific MDA regimen recommended varies depending on whether lymphatic filariasis is co-endemic with other filarial diseases. The World Health Organization (WHO) recommends the following Mass Drug Administration (MDA) regimens: albendazole (400 mg) alone twice per year for areas co-endemic with loiasis; ivermectin (200 mcg/kg) with albendazole (400 mg) in countries with onchocerciasis; diethylcarbamazine citrate (DEC) (6 mg/kg) and albendazole (400 mg) in countries without onchocerciasis; and ivermectin (200 mcg/kg) together with diethylcarbamazine citrate (DEC) (6 mg/kg) and albendazole (400 mg) in countries without onchocerciasis and, if certain programmatic conditions are fulfilled, the mentioned action will take place.

Diethylcarbamazine

[Devil-car](#)

The CDC allows physicians to choose between a 1-day or 12-day treatment of DEC, administered at 6mg/kg/day. Both treatment options are equally effective. DEC is generally well-tolerated, and side effects are limited and depend on the number of microfilariae present in the blood. Common side effects include nausea, fever, headache, dizziness, and muscle or joint pain.

Doxycycline

[Dachshund-cycling](#)

A few studies show that doxycycline kills the adult worm and may prevent lymphedema from worsening with a dosage of 200mg/day for 4–6 weeks.

Lymphedema Care

[Lime-edamame Care-bear](#)

Lymphedema care can also be done by referring the patient to a lymphedema therapist. Lymphedema care may include hygiene, exercise that helps pump fluid and improve drainage, elevation of the affected legs, skin and wound care, and wearing proper footwear.