Onchocerca Volvulus

Onchocerca volvulus is a parasitic nematode, or roundworm, which infects the tissues. It is transmitted via female blackfly bite, and leads to hyperpigmented skin and river blindness. The treatment of choice for river blindness is ivermectin.



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Pathophysiology

Nematode (Roundworm)
Knee-toad with Roundworms
Onchocerca volvulus is a nematode, or roundworm, which preferentially infects tissues over the intestines.

Female Blackfly Bite
Female Black-formal-fly Biting
This parasite is in its microfilarial form when it is in its vector, the female blackfly. When these flies seek a bloodmeal, biting humans, the microfilaria are transmitted to humans, who are the host. These larvae then mature into adults in the host's subcutaneous tissue.

Hyperpigmented Skin
Hiker-pig with Hyperpigmentation
As onchocerca volvulus preferentially migrates to subcutaneous tissues, infected patients display dermatologic symptoms. These have various manifestations, but typically there are skin nodules, pruritis, inflammation and hyperpigmentation.

River Blindness
River Blinds-over-eyes
Patients can also develop vision loss, named "river blindness." This disease occurs most often in sub-saharan Africa, and the nomenclature comes from the fact that these blackflies are found near rivers.

Treatment

Ivermectin
Ivory-medicine-man
Ivermectin is the preferred treatment, which helps to relieve dermatologic issues (itching, nodules, hyperpigmentation), and also helps halt the progression of blindness. This drug paralyzes and kills the microfilaria or larval form.

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