

have been ascribed to *M. ozzardi* infection. The diagnosis is made by detection of microfilariae in peripheral blood. Ivermectin is effective in treating this infection.

ZOONOTIC FILARIAL INFECTIONS

Dirofilariae that affect primarily dogs, cats, and raccoons occasionally infect humans incidentally, as do *Brugia* and *Onchocerca* parasites that affect small mammals. Because humans are an abnormal host, the parasites never develop fully. Pulmonary dirofilarial infection caused by the canine heartworm *Dirofilaria immitis* generally presents in humans as a solitary pulmonary nodule. Chest pain, hemoptysis, and cough are uncommon. Infections with *Dirofilaria repens* (from dogs) or *Dirofilaria tenuis* (from raccoons) can cause local subcutaneous nodules in humans. Zoonotic *Brugia* infection can produce isolated lymph node enlargement, whereas zoonotic *Onchocerca* species (particularly *O. lupi*) can cause subconjunctival masses. Eosinophilia levels and antifilarial antibody titers are not commonly elevated. Excisional biopsy is both diagnostic and curative. These infections usually do not respond to antifilarial chemotherapy.

DRACUNCULIASIS (GUINEA WORM INFECTION)

■ ETIOLOGY AND EPIDEMIOLOGY

The incidence of dracunculiasis, caused by *Dracunculus medinensis*, has declined dramatically because of global eradication efforts. However, between 2017 and 2020, there were increases in the number of human cases. At the end of 2020, there were a total of 27 human cases of Guinea worm disease across six African countries, with 12 cases in Chad, 11 cases in Ethiopia, and 1 each in South Sudan, Angola, Mali, and Cameroon.

Humans acquire *D. medinensis* when they ingest water containing infective larvae derived from *Cyclops*, a crustacean that is the intermediate host. Larvae penetrate the stomach or intestinal wall, mate, and mature. The adult male probably dies; the female worm develops over a year and migrates to subcutaneous tissues,