



Infection of humans by an unknown species of *Dracunculus*

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DESCRIPTION

Poor communities without access to safe drinking water in rural Africa are affected by the disease. In 1870, Alexei Fedechenko documented the life cycle of the parasite in detail. *D. medinensis* has been known as a 1 m long worm since the ancient Egyptians when it appeared as an infectious disease. This has a significant negative impact on agricultural production and school enrolment. The end of the infection is imminent. The parasite *Dracunculus medinensis* is responsible for Guinea worm disease, a Neglected Tropical Disease (NTD) (Cleveland Cleveland, et al. 2018).

There is no vaccine or drug to prevent Guinea worm disease. The goal of eradicating Guinea worm disease has been achieved from 3.5 million a year in the mid-1980s to 15 in 2021; A parasitic infection caused by the guinea worm, *Dracunculus medinensis*, Dracunculiasis, is also known as guinea worm disease. Humans are infected by drinking water containing daphnia infected with guinea pig larvae. Worms escape through the digestive tract and grow inside the body for a year. After some time, the adults migrate to the exit site, usually the lower extremities, where they cause excruciatingly painful blisters on the skin (Cleveland, et al. 2019).

When an infected person soaks the wound in water to ease the discomfort, the blister bursts and the worm vomits the larvae into the water. The worm slowly crawls out of the wound over several weeks. During the 3-10 weeks it takes for the worm to develop, the wound is painful during its development and the affected person is incapacitated. During this time, open wounds can develop bacterial infections, which can be fatal in 1% of cases. The first symptoms of dracunculiasis appear about a year after infection, when the adult female worms are ready to leave the host. Some people experience undesirable

symptoms such as hives, fever, dizziness, nausea, vomiting and diarrhea as the worms travel to their final destination, usually the lower extremities. A fluid-filled blister forms underneath (Elsasser, et al. 2009).

After a few days, the blisters get bigger and start to hurt badly. An infected person can expose a female nematode by bursting the blister when submerged in water for pain relief. Up to 40 nematodes can live in the infected person's body at the same time and emerge from different bladders at the same time. There is no known cure for the condition known as Guinea worm disease. Instead, care is taken to gradually remove the worms from the wound over a period of days to weeks. When the blister bursts and the worms come out, the wound is submerged in water and the worms move farther from the freshwater source. The first part of the worm is usually wrapped around a gauze or stick as it begins to hatch (Houter, et al. 2012).

This causes the worm to constantly stress and exit. Each day, a worm protrudes several inches from the bladder and the stick is coiled to maintain tension. This occurs daily, usually within a month, until a full worm emerges. Too much pressure at any time can cause the worm to burst and die, causing excruciating pain and swelling in the ulcerated area. Guinea worms are contracted by consuming water contaminated with daphnids. The larvae are freely mobile and enter the abdominal tissues through the intestinal tract. There the larvae grow and the male and female worms mate. Gastric secretions in the human digestive tract kill daphnids (Thiele, et al. 2018).

After mating, the female travels to various tissues, usually up to the legs, possibly by moving along bones or tunneling through tissues, but the male dies. The earliest known evidence of Guinea worm disease (Williams, et al. 2018).

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