



FASCIOLIASIS

Key data

- Fascioliasis is a zoonotic parasitic infection caused by two species of trematodes: *Fasciola hepatica* and *F. gigantica*. Both are leaf-shaped and large enough to be visible to the naked eye. As its name indicates, *F. gigantica*'s size, as much as five centimeters lengthwise, makes it somewhat more conspicuous.
- The adult worm lives in the bile ducts of human and infected animals (usually cattle or ovine animals, but also donkeys, pigs, llamas, and alpacas), then these species excrete eggs in feces. If the feces reach freshwater streams, the eggs become larvae (known as miracidia) and penetrate a particular type of limnaeid snail, which acts as an intermediary host.
- The larvae mature inside the snail and reproduce, generating another type of larva that is released in the water and adheres to aquatic or semiaquatic plants in the form of small cysts (metacercariae). Transmission to other animals or human beings occurs when they ingest the encysted plants. The human problem most often arises with fresh vegetables, principally watercress, totora, brown algae, alfalfa, lettuce, and spinach.
- Fascioliasis symptoms can appear weeks or even months after the larvae is ingested. Two phases of infection can be distinguished. The acute phase is characterized by fever, nausea, hepatomegaly (increase in liver size), abdominal pain, urticaria, and eosinophilia. The chronic phase begins when the worms reach the bile ducts, and often involves colicky pain, jaundice, and anemia. Pancreatitis, bile duct stones, and bacterial superinfections are frequent as well. The chronic phase can last for several years. Children tend to present a more serious clinical manifestations, sometimes including internal hemorrhage.
- In the American hemisphere, the only one of these two trematode species that is transmitted is *F. hepatica*. However, information on the fascioliasis burden in human beings and its geographical distribution is limited. In 1995, WHO calculated that approximately half of the 2.39 million people infected worldwide lived in Bolivia, Ecuador, and Peru. The world's principal endemic areas are in the Andean altiplano, with high prevalence rates of infection in indigenous communities.
- A suggestive clinical picture and a history of eating raw vegetables can be a guide to diagnosis. Microscopic detection of eggs in stool samples continues to be the most common diagnostic technique. Screening tests for antibodies or circulating antigens should be carried out in blood and stool samples, especially for detection of the disease in its acute phase. Imaging such as sonography is an effective additional tool.
- Triclabendazole is the only medicine recommended by WHO for the treatment of human fascioliasis. In areas where a number of cases of human fascioliasis are known to have occurred, the possibility of administering triclabendazole as mass preventive chemotherapy should be considered. In such cases, WHO recommends treatment of school-age children (ages 5 to 14) and treatment of the area's entire population as options.

PAHO/WHO Response

- In the Americas, control of human fascioliasis is treated with triclabendazole in the altiplano areas of Bolivia and Peru, where entire communities receive the treatment at regular intervals. Through WHO, the Swiss pharmaceutical company Novartis Pharma AG provides the drug to endemic countries free of charge.
- To stop transmission of the disease in endemic populations, PAHO/WHO also promotes implementing educational activities as a way of changing habits and encouraging healthy behavior (washing raw plants with safe water before consuming them and avoiding defecation outdoors near running fresh water). PAHO also promotes implementation of veterinary public health measures. This includes frequent deworming of livestock, which can be reservoirs of the disease, using fasciolicides rather than triclabendazole to forestall the development of resistance, and promoting good livestock management practices such as stabling and/or preventing livestock from grazing in areas with accumulations of fresh water.
- In 2016, through Resolution [CD55. R9](#), the PAHO Directing Council approved the *Plan of Action for the Elimination of Neglected Infectious Diseases and Post-elimination Actions 2016-2022*. The plan's objectives and priorities include preventing, controlling, and reducing the burden of the disease. The plan also calls for intensifying measures to prevent certain neglected zoonoses through a "One health" approach that encourages intersectoral collaboration bringing together three relevant areas in the cycle: human health, veterinary health, and environmental health.