

## Fascioliasis: A Neglected Tropical Disease of Global Public Health Concern

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### Introduction

The World Health Organization (WHO) includes *fascioliasis* in the list of the NTDs (Neglected Tropical Diseases), among the group of food-borne trematodiasis [1].

This disease is a parasitic zoonosis caused by two liver fluke species: *Fasciola hepatica* distributed throughout Europe, Africa, Asia, Oceania and the Americas, and *F. gigantica* restricted to parts of Africa and Asia [2]. Widely distributed infecting livestock, human infection by *Fasciola* was considered of only secondary importance until 1990 [3]. Human affection by these trematodes began to show its importance from the following decade, with the progressive description of many human endemic areas and an increase of human infection reports [4,5].

Until now, *fasciola hepatica* has only been considered a veterinary problem. Because it causes huge economic losses in the livestock production industry, especially in Cattle and sheep and a wide range of clinical symptoms, from many Fatal in sheep to asymptomatic infection in cows takes (Figure -1). Usually the severity of pathological manifestations depends on the number of metacercariae Eaten over a period of time and relative sensitivity of the host animal [6].

About 2/5 million cases of human fascioliasis and 180 million people there are at risk of infection in the world and its incidence has clearly increased since the 1980s [7].

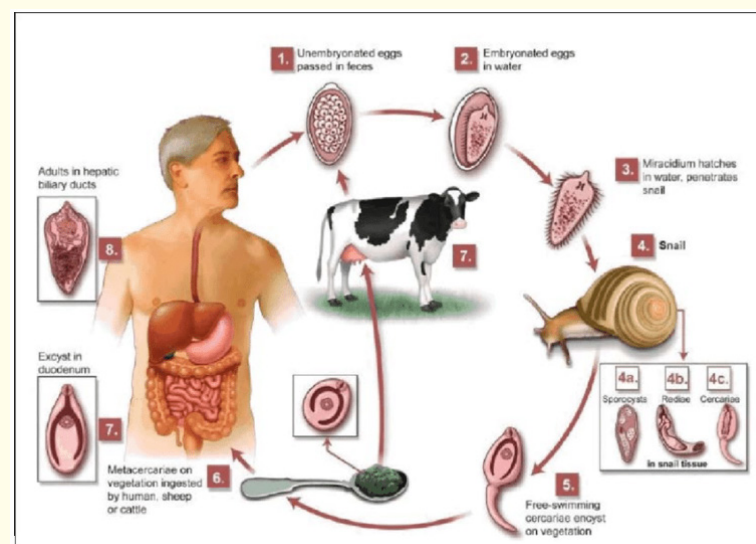


Figure 1: Life cycle of *Fasciola hepatica* (CDC).

The pathology of *fascioliasis* is different in both acute and chronic stages. Acute form is most common in sheep. Subacute *fascioliasis* or by eating fewer metacercariae, Updates from eosinophilia and periodically fever or from eating large amounts of Metacercariae develop over a longer period of time and have major symptoms Manifested weight loss and anemia [8].

Chronic *fascioliasis* is found in all hosts of this parasite, especially in humans. In this case, the infection is rarely fatal and usually occurs in species that have delayed resistance to fluke [3].

To find the parasite's eggs in cases of mild human infections, it is necessary to examine several stool samples. Sediment concentration method is also a suitable laboratory method (Kato-Katz) [7].

The use of serological diagnostic methods, especially in the acute phase of *fascioliasis*, is optional (FAST-ELISA) [3].

Other diagnostic methods for *fascioliasis* include ultrasound, CT scan, and PCR [6].

Taking medications that have been used to treat *fascioliasis* so far Praziquantel and Dehydroemetine, Bithionol or Chloroquine and Mebendazole It has been associated with significant side effects or its administration has not been effective at all.

Triclabendazole is the veterinary drug of choice for fasciolicide that is completely safe to use. And now it is the treatment of choice for livestock all over the world [5,7].

Regional control, climatic conditions and socio-economic factors play a role in controlling *fascioliasis*.

Destruction of fluke in infected animals, reduction of population of intermediate host snails and prevention of permanent grazing in infected areas are ways to control *fascioliasis*.

But in practice, often only the first option is done. Control methods are expensive and will become more difficult with the development of resistance to flukicide drugs [5,6].

Control key is preventing the passage of feces containing parasite eggs into water sources and observe the health sanitation.

Aquatic vegetables should be washed with 6% vinegar or potassium permanganate for 5 to 10 minutes to remove encysted metacercides. It is recommended to cook these vegetables thoroughly before consuming them.

Contamination of these areas with sewage should also be prevented [8].

The use of Geographic information systems (GIS) is a powerful new tool for epidemiological studies, including Diseases transmitted by vectors with strong environmental variables.

The use of snailcidal toxins such as copper sulfate spray reduces pasture pollution, but because other aquatic organisms other than the target snails are killed, its use is not allowed [8].

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