

Radiologic Characteristics of Human Fascioliasis

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Description

Human fascioliasis has been a neglected tropical disease and is consequently an emerging/re-emerging health problem in many areas of the world. Parasite migration causes a variety of symptoms and signs indicating an acute or chronic phase. The clinical presentation of human fascioliasis infection is unusual and can range from asymptomatic cases to those involving cholangitis, hepatitis or liver abscesses. The number of reports of humans infected with *Fasciola spp.* has increased significantly since 1980. Several geographical areas have been described as endemic for the disease in humans, with prevalence and incidence ranging from low to very high. Impact and wide emergence prompted the World Health Organization (WHO) to include human fascioliasis on its list of priorities among Neglected Tropical Diseases (NTDs). Despite this heightened awareness there have been an increasing number of reports of fascioliasis in travellers and migrants from poor rural endemic areas in developing countries where there is increasing travel affordability related to lower costs and improved transport facilities. Human infection has been reported from many countries including those in Europe, USA, and northeast Africa (Maghreb countries and Egypt). Relatively few patients have been diagnosed in studies into travellers carried out in Asia. In Thailand, human fascioliasis has been sporadically found in clinical practice but data has not been collected and reported.

Fascioliasis is a zoonotic disease caused by two main liver fluke species of *Fasciola*: *Fasciola hepatica* and *Fasciola gigantica*. *F. hepatica* infects humans on all continents (except Antarctica). In contrast, *F. gigantica* infection is more geographically constricted, occurring in the tropical regions of Africa, the Middle East, and Asia. Fascioliasis is typically a rural distomatosis, which commonly affects livestock (Sheep, goats, buffaloes and cattle), humans are accidental hosts. In humans, the infection begins with the ingestion of freshwater wild plants,

watercress and other vegetables or contaminated water containing encysted larva. The pathogenesis of fascioliasis in humans appears to be similar to that reported in animals. Four clinical periods may be distinguished: an incubation phase of a few days to several months (from the ingestion of metacercariae to the appearance of the first symptoms); an invasive or acute phase of 2-4 months (fluke migration up to the bile ducts); a latent phase of days or years (maturation of the parasites and the beginning of oviposition); the biliary, chronic or obstructive phase, which may develop after months or years post infection. Patients are almost always diagnosed in the second or the fourth period. The clinical presentation of human fascioliasis infection is unusual as cases can range from those which are asymptomatic to those with cholangitis, hepatitis or liver abscesses.

The disease itself presented more frequently during the rainy season (June-September), and it was found that there is a greater risk of humans contracting the parasite if they live in regions where cattle and buffalo are prominent and also those who consume raw aquatic vegetation, watercress in particular. Human fascioliasis can be classified as acute or chronic based on clinical manifestations and laboratory findings. The acute (hepatic) phase usually begins 6 to 12 weeks after ingestion of metacercariae from a contaminated water source. The first sign is usually very high fever, followed by right upper quadrant pain, hepatomegaly, and occasionally jaundice. A differential Cell Blood Count (CBC) will show a marked peripheral eosinophilia. These symptoms are attributed to the *Fasciola spp.*

Fasciola spp. can cause liver abscesses and lead to morbidity and mortality. A raised awareness of typical clinical clues, laboratory test results and radiological findings for diagnosis and prompt specific treatment with triclabendazole provided satisfactory treatment outcomes.