A report on liver flukes in humans

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PERSPECTIVE

A parasitic worm called a liver fluke infects the liver. Human infections are most contracted by consuming infected raw or undercooked freshwater fish or watercress. After being swallowed, liver flukes migrate from your intestines to your liver's bile ducts, where they reside and proliferate. Although most infected people have no symptoms, problems relating to the biliary system can occur. Long-term consequences can occur in rare circumstances. Humans can be infected with liver flukes, which cause liver and bile duct disease. The Opisthorchiidae (which comprises the *Clonorchis* and *Opisthorchis* species) and Fasciolidae families of liver flukes cause disease in humans (which includes species of *Fasciola*). Geographic distribution, life cycle, and long-term outcome after clinical infection differ between these two groups of liver flukes.

Clonorchis is a parasitic liver fluke that humans can contract by eating raw or undercooked fish from infected areas. *Clonorchis* is also known as the Chinese or Oriental liver fluke and is found across Asia. In humans, liver flukes infect the liver, gallbladder, and bile duct. While most people who are infected do not show any symptoms, long-term infections can cause severe symptoms and sickness. Infections can last up to 25–30 years if left untreated, which is the parasite's lifetime. Clonorchis sinensis (Chinese or Oriental liver fluke) is a common foodborne infection in Asia that causes liver illness. This appears to be the only species in the genus that is capable of infecting humans. *Clonorchis* infection is diagnosed by examining the parasite's eggs in stool samples under a microscope. *Clonorchis* infections can be treated with safe and effective medicines. The parasite can be killed by properly freezing or frying fish.

Humans can catch liver fluke parasites called *Opisthorchis* species by eating raw or undercooked fish from parasite-infested locations in Asia and Europe. In humans, liver flukes infect the liver, gallbladder, and bile duct. While most people who are infected do not show any symptoms, long-term infections can cause severe symptoms and sickness. Infections can last up to 25–30 years if left untreated, depending on the parasite's lifetime. Indigestion, stomach pain, diarrhea, or constipation are common symptoms. Abdominal pain, nausea, and diarrhea may develop in severe cases. In addition to the normal symptoms seen in *O. viverrini* infections, *O. felineus* infections can cause fever, facial swelling, swollen lymph glands, aching joints, and rash, which are comparable to the signs and symptoms of schistosomiasis. The pancreatic ducts may be affected by chronic *O. felineus* infections. Microscopic detection of parasite eggs in stool specimens is used to diagnose *Opisthorchis* infection. *Opisthorchis* infections can be treated with safe and effective medicines. The parasite can be killed by properly freezing or frying fish. Trematodes (flukes) *Opisthorchis viverrini* (Southeast Asian liver fluke) and *Opisthorchis felineus* are the causative agents (cat liver fluke).

Their life cycle includes, adult flukes lay fully mature eggs in the faeces, which are then passed on to the next generation. The eggs release miracidia after being consumed by a suitable snail (first intermediate host). The miracidia go through various developmental phases in the snail (sporocysts , rediae , cercariae). *Cercariae* are liberated from the snail and encyst as metacercariae in the muscles or under the scales of freshwater fish (second intermediate host). Ingestion of undercooked fish harbouring metacercariae infects the mammalian definitive host (cats, dogs, and different fish-eating mammals, including humans).

Fasciola hepatica, also known as "the common liver fluke" or "the sheep liver fluke," is the parasitic infection that causes fascioliasis. *Fasciola gigantica*, a parasite related to Fasciola, can also infect humans. Fascioliasis is found in over 70 countries on all continents except Antarctica, especially where sheep or cattle are kept. People usually become infected by eating raw watercress or other water plants contaminated with immature parasite larvae. The young worms make their way into the bile ducts through the intestinal wall, abdominal cavity, and liver tissue, where they mature into mature adult flukes that lay eggs. The bile ducts and liver are the most affected areas. Fasciola infection can be treated and avoided.

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