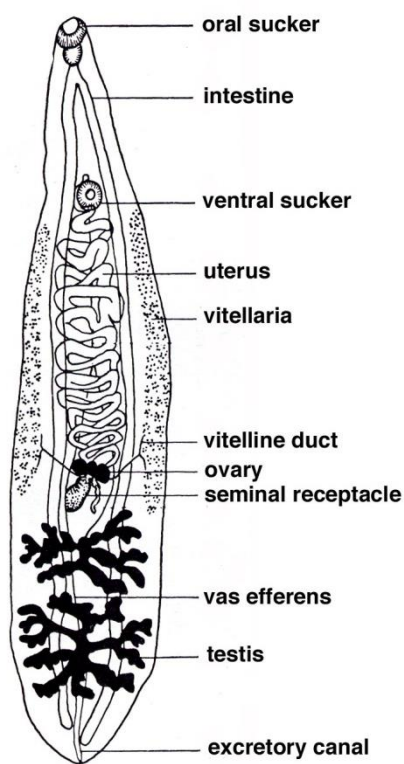


Clonorchis sinensis



Clonorchis sinensis (Cobbold, 1875) Looss, 1907, the Chinese liver fluke, was first reported by McConnell (1875) from the bile passage of a Chinese carpenter who came to autopsy in Calcutta.

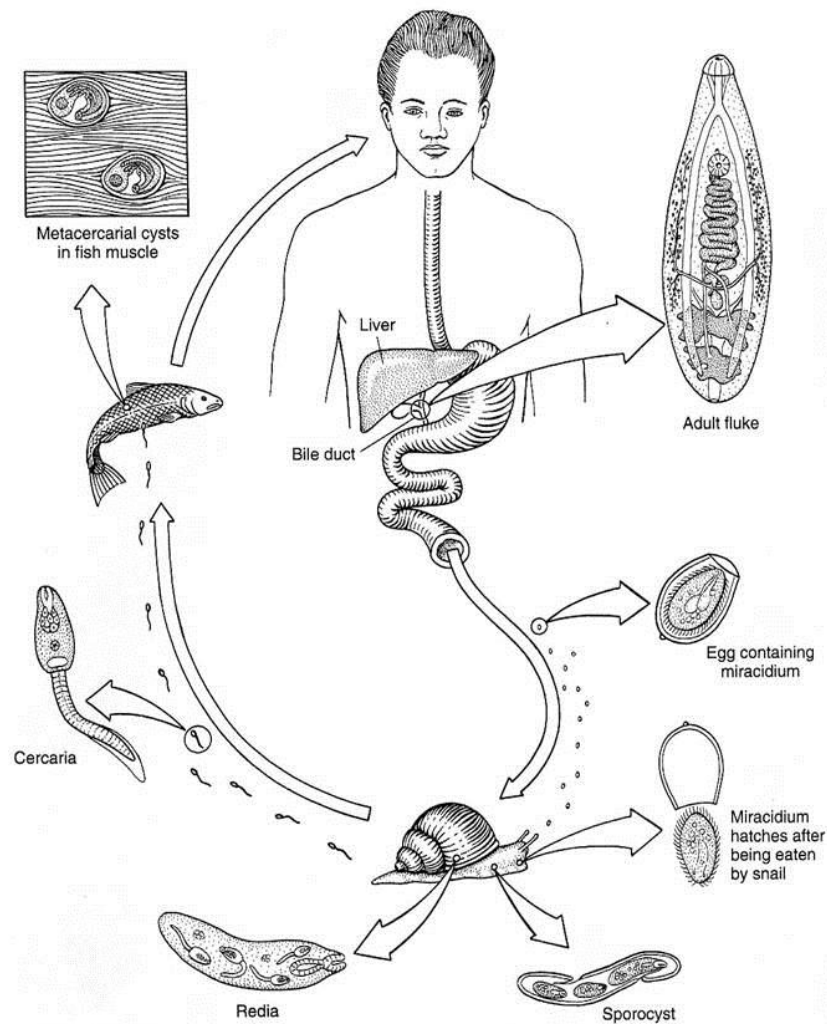
Morphology, Biology and Life Cycle

The mature *C. sinensis* lives typically in bile passages, or may under the surface of the liver. The worms are elongated, lanceolate, and flat, transparent, golden brown to pinkish in the living condition and measure 10 to 25 mm. long by 3 to 5 mm. broad. All important internal structures are visible in the unstained living worm.

The eggs are broadly ovoidal, have a moderately thick, light yellowish-brown shell with a distinct convex operculum which fits into a circular rim of the shell, and usually a small knob at the opposite end. They measure 27 to 35 microns in length

by 12 to 20 microns in greatest diameter and are fully embryonated when discharged into the bile ducts and later evacuated in host's feces. They hatch only when ingested by suitable species of operculate snails (*Parafossarulu*), the miracidia penetrate into the soft tissues, where they transform into first-generation sporocysts, in which second-generation rediae are produced. The third generation larvae, the cercariae, escape from the snail and swim about for a short time in the water. In contact with freshwater fishes, the cercariae penetrate into the flesh and become encysted.

On being eaten in uncooked fish the metacercariae are digested out of the flesh and excyst in the duodenum, whereupon the larvae migrate to the bile, become attached and develop into adult worms.



Pathogenicity and Symptomatology

Mature *Clonorchis sinensis* in the bile passages provoke marked hyperplasia of the biliary epithelium with subsequent dense fibrous encapsulation of the duct. As the number of worms gradually increases over a period of years, practically all of the terminal bile ducts come to have reduced lumens, fibrous thickening of the walls and pressure necrosis of adjacent hepatic parenchyma. The prodromal symptoms are observed less than a month after exposure and before eggs are detected in the stools. The clinical onset is gradual or sudden, with chills and fever up to 40° C. In some cases there was congestive splenomegaly. Eosinophil count ranged from 10 to 40%. Some week later the picture is one of cholecystitis and hepatitis. Chronic *C. sinensis* infection in childhood has been recently linked to delayed physical growth and development.

Diagnosis.

This is based on the recovery of the characteristic eggs by direct fecal films, sedimentation of the stools, acid-ether technique.

Treatment

Praziquantel is the only medicine recommended by WHO for treatment of clonorchiasis. It should be administered at the dose of 25 mg/kg three times daily for 2–3 consecutive days or of 40 mg/kg, single administration.

Epidemiology

Infection is contracted by eating freshwater fish containing the encysted metacercarial stage of *C. sinensis*, in a raw condition, pickled in brine, smoked or dried.