LAB 5

Kingdom:Animalia
Phylum: Platyhelminthes
Class: Trematoda
Order: Prostomata
1-Family:Opisthorchiidae
Genus: Clonorichissinensis
2-Family:Faschiolidae
Genus: Faschiolahepatica
3-Family:Troglotremagotidae
Genus: Paragonimuswestermani

The trematodes (or flukes) are leaf shaped with an outer cover called the tegument which maybe smooth or spiny. There are two suckers or attachment organs, an anterior oral sucker and aposterior ventral sucker.

1- **Clonorichissinensis**
Commanname :chinease liver fluke

Man is the definitive hosts
water snails and fish are the intermediate hosts.

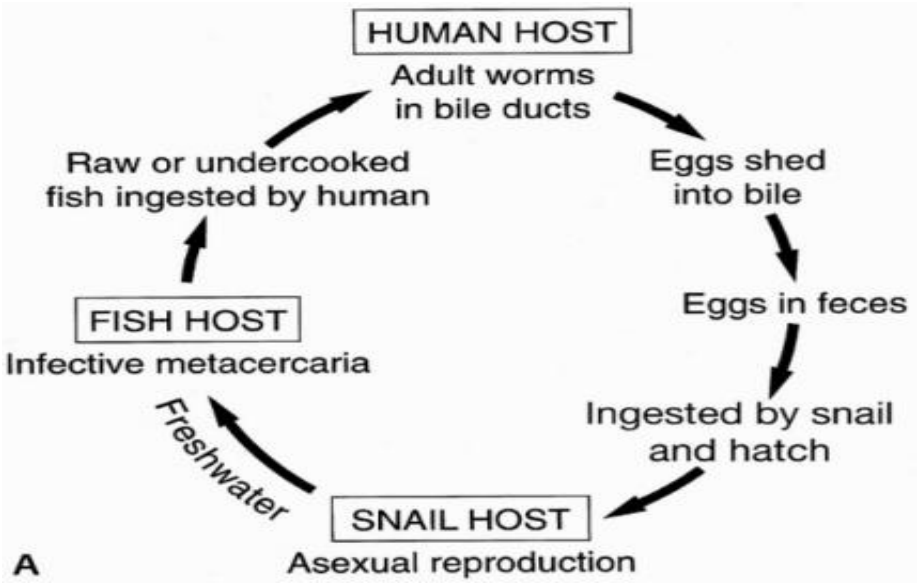
Site of infection the biliary duct in humans who become infected by eating raw or undercooked fish. Dogs and cats are the most important reservoir hosts.

Morphology

The adult flukes measure 11–20μm by 3–4.5μm and are lanceolate in shape, translucent and brownish in color.hermaphroditic It have two suckers ,The oral sucker is larger than ventral sucker.The ova of *Clonorchissinensis*contain fully developed miracidia and possess prominentopercular shoulders (flask shaped egg) and are operculate. They are bile stained and measure 29μm by 16μm.

Life cycle

Embryonated eggs are discharged in the biliary ductsand in the stool . Eggs are ingested by a suitable snail. Each egg releases amiracidia , which go through several developmental stages (sporocysts , rediae , and cercariae). The cercariae are released from the snail and after a short period of freeswimmingtime in water, they come in contact and penetrate the flesh of freshwater fish,where they encyst as metacercariae . Infection of humans occurs by ingestion ofundercooked, salted, pickled, or smoked freshwater fish . After ingestion, themetacercariaeexcyst in the duodenum . The adult flukes reside in small and medium sized biliary ducts



Symptoms:

The pathology is related to the number of parasites present. Light infections of up to 50eggs or more are usually asymptomatic. A heavy infection of 500 or more eggs may causeserious illness.
Acute infections may be characterized by fever, diarrhea, epigastric pain, enlargement andtenderness of liver and sometimes jaundice. The invasion by these worms in the gall bladdermay cause cholecystitis, due to flukes becoming impacted in the common bile duct.

Laboratory Diagnosis

Microscopic identification of eggs in feces following an iodine stained, formol-ether concentration method of the feces or from duodenal aspirates when there is complete obstructive jaundice

Fasciolahepatica

Comman name: sheep liver fluke

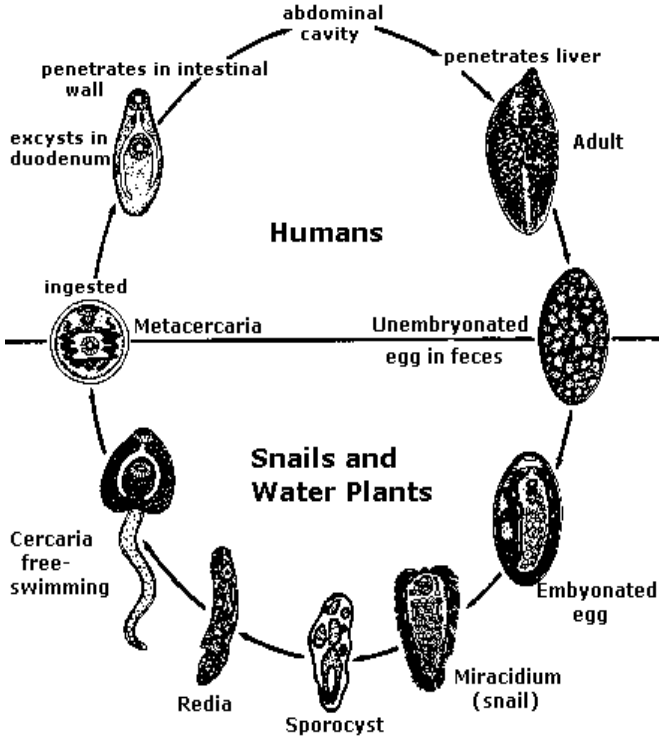
The eating of unwashed watercress (freshwater plants) appears to be the source of infection,
the definitive host:The most common host is sheep (herbivorus) and some time human.
intermediate host: snails
site of infection:liver or bile ducts

Morphology

The adult flukes are large leaf-shaped parasites about 2–3cm long. There are two suckers, an anterior oral sucker surrounding the mouth and a ventral sucker on the ventral surface, oral sucker is smaller than ventral sucker
The outer tegument is covered in tiny spines which face backwards enabling them to attachthemselves along with their suckers to the tissues.

Life cycle

Infective stage :metacercaria
Diagnostic stage: egg



Symptoms:
Light infections due to *Fasciola hepatica* may be asymptomatic. However, they may producehepatic colic with coughing and vomiting; generalized abdominal rigidity, headache andsweating, irregular fever, diarrhea and anemia.

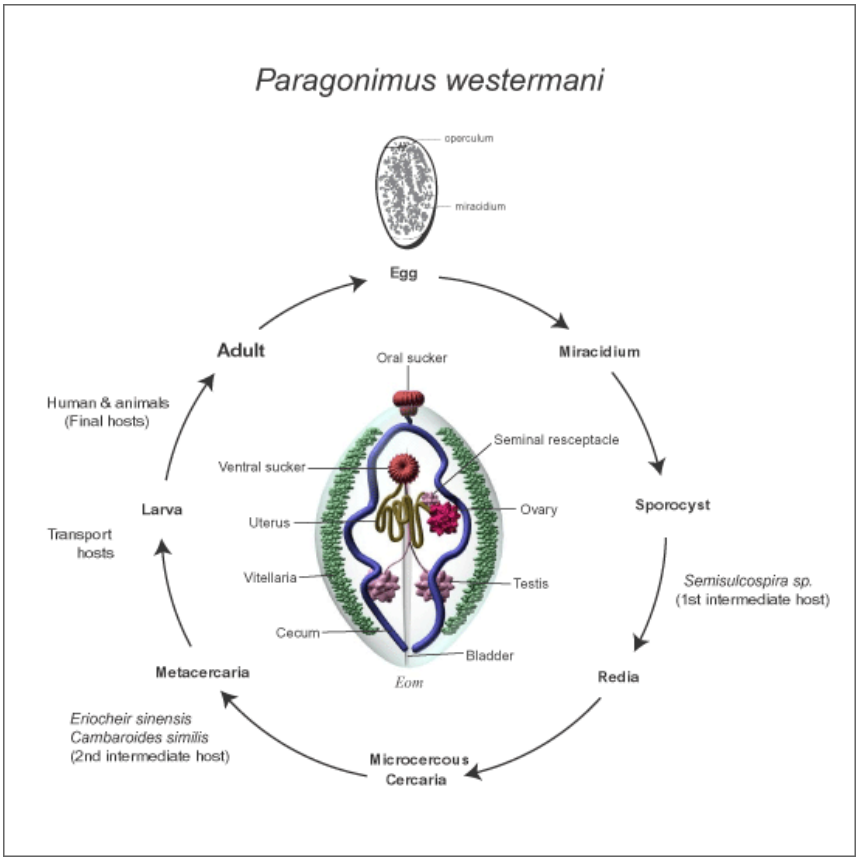
Laboratory Diagnosis
Microscopic identification of eggs in feces
Serological techniques

Paragonimuswestermani
Comman name: Oriental lung fluke
Site of infection: lungs and liver spleen

Morphology
The adults are ovoid, reddish brown fluke 12µm long and are found in capsules in the lung. Oral and ventral suckers are equal in size

Life cycle

Definitive host:Human
Intermediate host 1-snail 2-crab or crayfish
Reservoir :pigs, dogs and variety of feline species



Symptoms:

As the parasites grow in the lung cyst, inflammatory reaction and fever occurs. The cyst ruptures and a cough develops resulting in an increase in sputum. The sputum is frequently blood tinged and may contain numerous dark brown eggs.

Hemoptisis may occur after paroxysms of coughing. Dyspnea and bronchitis develop with time.The disease resembles pulmonary tuberculosis. Cerebral calcification may also occur.

Laboratory Diagnosis

Diagnosis is based on finding the characteristic eggs in brown sputumThe eggs are ovoid, brownish yellow, thick shelled and operculated. The eggs can also be found in the feces due to swallowing sputum.

A chest x-ray may show cystic shadows and calcification.

Serological tests, in particular, the ELISA method, are useful diagnostic tests