

NOTE:

This is just a review of the slides and is not enough
Important points are in **red**.

Classification of Helminths (worms)

Flat Worms

Nematodes

Round worms



Next lecture

Trematodes

Leaf-like, unsegmented worms

- ***Schistosoma***
Mansoni, hematubium & (JapunicumX)
- ***Fasciola hepatica***

Cestodes

Tape-like, segmented worms



Next lecture

•Schistosoma

*Life Cycle:

Eggs are passed with:
mansoni – feces



hematobium – urine



Eggs develop inside
snails of fresh water

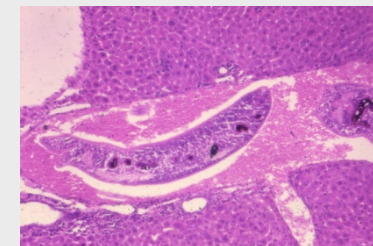


NOTE:
Infective stage
Diagnostic Stage

free-swimming
Cercaria released by
snail penetrate skin



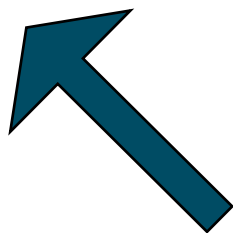
Schistosomules pass through
bloodstream to reach portal circulation
where they mature into adult worms



Schistosomes migrate to
veins of:

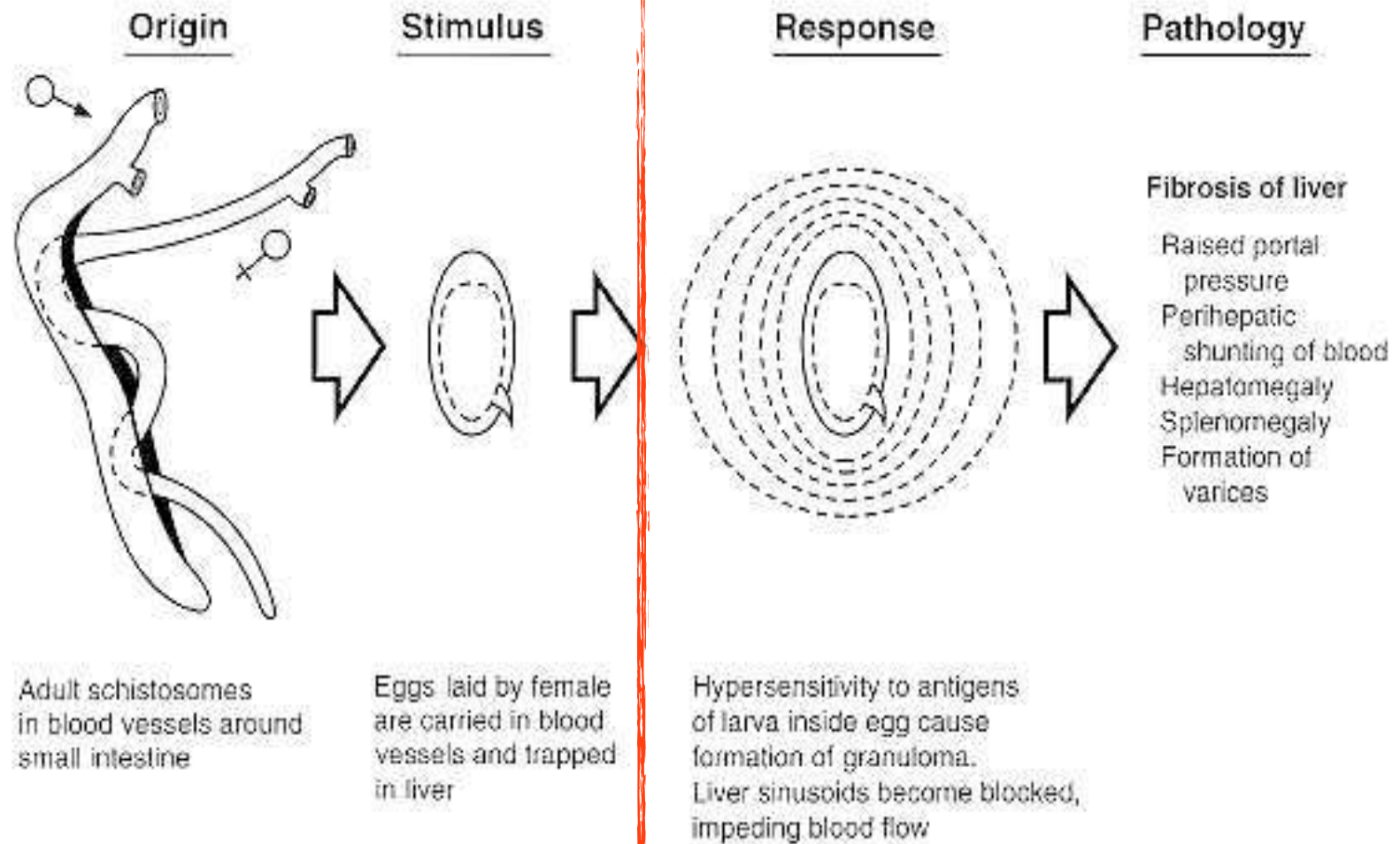
Mansoni – intestine
Hematobium – bladder

and pass their eggs



•Schistosoma

* Pathology:

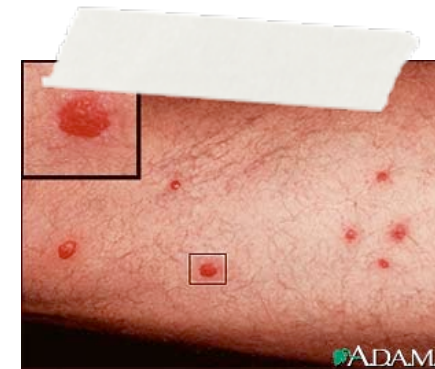


•Schistosoma

* Pathology:

1) Prepatent period:

- Skin irritation from **cercaria penetration** (swimmer's itch)

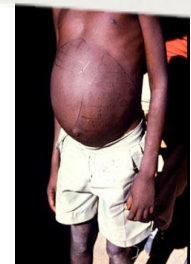


2) Egg deposition and extrusion:

- **Schistosomal dysentery** (blood and mucus in urine) due to penetration of intestinal mucosal wall by eggs.
- When eggs are distributed to other organs --> systemic involvement (CNS symptoms, pulmonary & cardiac complications)

3) Tissue proliferation & repair: Intestinal fibrosis, thickening and papillomata formation --> constriction and loss of tone.

- Hepatic fibrosis and fibrosis around portal veins --> portal hypertension --> **esophageal varices** --> hematemesis (common cause of death in schistomaisis patients)
- Hepatic fibrosis --> hepatomegaly & splenic fibrosis --> splenomegaly.



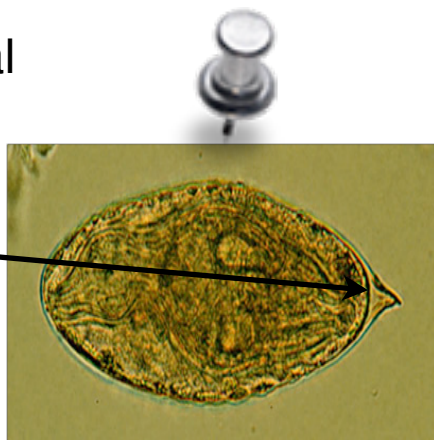
•Schistosoma

* Diagnosis:

Schistosoma hematobium

- **Parasitological**
 - Examination of urine (detection of eggs)
- **Immunological**
 - Serological tests
- **Indirect:**
 - Radiological
 - cystoscopy

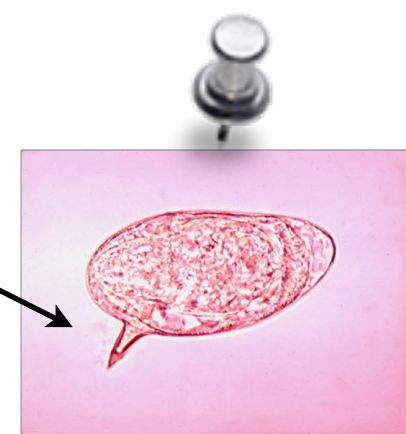
Note the terminal spine



Schistosoma mansoni

- **Parasitological**
 - Examination of stools (detection of eggs)
- **Immunological**
 - Serological tests
- **Indirect:**
 - Radiological

Note the lateral spine



- Schistosoma

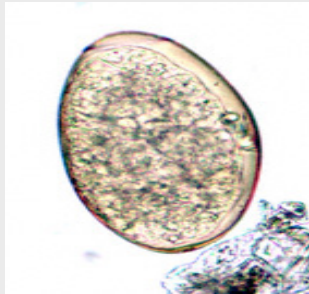


Praziquantel

•Fasciola Hepatica

*Life Cycle:

Eggs are passed with feces



Eggs develop inside snails of fresh water and become cercariae



NOTE:

Infective stage

Diagnostic Stage

The cercariae released by snail encyst on the leafs of water plants and become **metacercariae**



When **metacercariae** are engested (usually by animals) ununsally by humans, they **excyst in small intestine**

metacercariae migrate through peritoneum to liver and finally to bile duct where they mature

•Fasciola Hepatica

* Pathology:

- **True infection** when metacercariae are eaten from leafs
 - causes mainly biliary obstruction and liver damage.
- **False infection**: when eggs are eaten in infected animal liver and passed in stools. (false positive stool analysis result)

• Fasciola Hepatica

* Diagnosis:

- Detection of eggs in stools or duodenal aspirate.



Triclabendazole

10 | Trematodes

MCQ's

1. Dysentery is not caused by:

- a) Amebiasis
- b) Shigella
- c) Schistosomiasis
- d) Giardiasis

2. Schistosoma is:

- a) Intestinal trematode
- b) Liver cestode
- c) Blood trematode
- d) Intestinal nematode

3. Chemotherapy of schistosoma:

- a) Mebendazole
- b) Bithional
- c) Praziquantel
- d) Triclabendazole

11 | Trematodes

4. Which is effective in preventing schistosoma mansoni:

- a) Metronidazole
- b) Albendazole
- c) Cloroquine
- d) Praziquantel

Answers:

- 1) d
- 2) c
- 3) c
- 4) d