Schistosoma

Schistosoma is a parasitic trematode (fluke), which leads to devastating disease. Snails are the host to this parasite, and human illness develops when cercariae penetrate the skin. Disease manifests as gastrointestinal, liver and spleen granulomas. Infection is diagnosed with ELISA, and is treated with praziquantel.

PLAY PICMONIC

Pathophysiology

Trematode (Fluke)
Tree-toad
Schistosoma is a trematode, or blood-fluke. This is a parasitic flatworm.

Snail-infested Water
Snail-infested Water
Snails are the host for this parasite, and humans can develop infection from being exposed to snail-infested waters.

Intense Immune Response
Intense Moon
The symptoms of schistosomiasis occur after an intense immune response from the body to this parasite. Immune reaction to worms and trapped eggs lead to cellular infiltrant, leading to granulomas, inflammation and fibrosis.

Intestinal Disease
Diseased Intestines
As eggs pass through the digestive system, many pathologic events can take place. Ulceration can occur, eggs can become lodged in the intestines, and worms can become trapped in intestinal mesenteric veins.

Hepatosplenic Granuloma
Liver and Spleen Granny-llama
Typically, these parasites migrate to the liver sinusoids, where they feed on red blood cells. From this liver migration, hepatosplenic blood flow can become interrupted (through obstruction via worm or egg), leading to hepatosplenic dysfunction and granuloma formation. Schistisoma mansoni and japonicum are specifically known for leading to hepatic granuloma formation.

Squamous Cell Cancer of the Bladder
Square-mouse and Tumor-guy pulling on Bladder
Some types of schistosoma can migrate to ureteral areas or to the bladder and kidneys. These can lead to urinary granulomas and genitourinal issues in patients. Most importantly, Schistosoma hematobium can lead to squamous cell carcinoma of the bladder in those who are chronically infected. Patients display painless hematuria.

Diagnosis

Parasitic Antigens via ELISA
Parasite Ant-gems with Elizabeth
The most common diagnostic technique involves detection of parasitic antigens by ELISA, where the patient's blood is sampled.

Treatment

Praziquantel

Pretzel-queen

Praziquantel, a powerful antihelminthic medication is effective against flukes, like schistosomiasis.