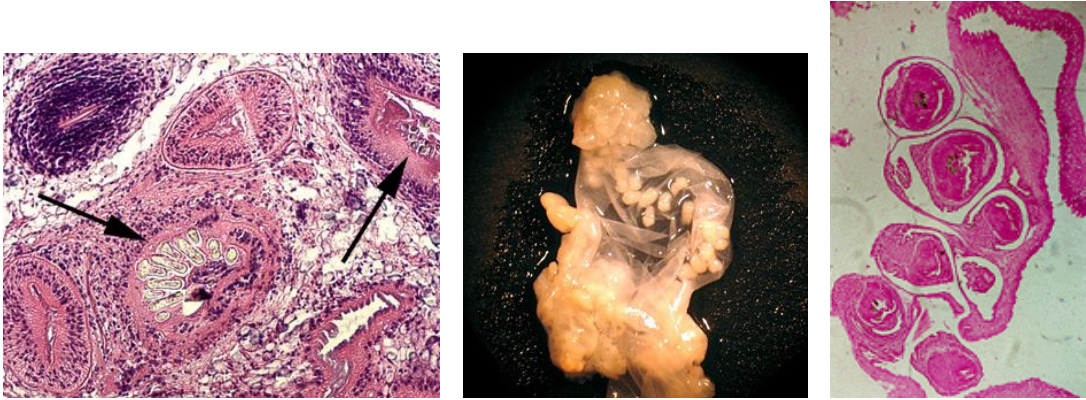


Taenia (Multiceps) spp. (T. multiceps, T. serialis) (Coenurosis, Tissue Cestodes)

Organism:

Although the adult tapeworms resemble *Taenia* spp., the larval form is a coenurus, a unilocular cyst with the same configuration as a cysticercus but containing multiple scolices. Human cases have been reported worldwide; however, identification to the species level is often very difficult if not impossible



Various images of coenurosis (immature larvae).

Life Cycle:

The dog, wolf, and fox are the definitive hosts for *Taenia (Multiceps) spp.* Infection of the intermediate host (herbivores) occurs upon ingestion of infective eggs from the adult tapeworm in the carnivore intestine. The oncosphere hatches in the intestine, penetrates the intestinal wall, and is carried via the bloodstream to various parts of the body, primarily the central nervous system. In sheep, one of the more common herbivore intermediate hosts, the presence of the coenurus in the central nervous system causes a disease known as gid (unstable gait or giddiness). When these infected herbivore tissues are ingested by a carnivore, each scolex within the coenurus has the potential to become an adult worm in the carnivore's intestine.

Acquired:

Infection in humans is acquired through drinking impure water, eating frog or snake meat or using frog or snake meat as a poultice; some patients had multiple risk factors. Most of these cases presented with superficial ocular mass lesions

Epidemiology:

All drinking water in areas of endemicity should be boiled or filtered to prevent accidental ingestion of *Cyclops* spp. The ingestion of raw tadpole, frog, snake, fowl, or mammalian flesh should be avoided in these areas.

Clinical Features:

Most patients have slowly growing, tender, subcutaneous nodules. These nodules may also be migratory. Ocular sparganosis is accompanied by pruritus, pain, lacrimation, and edematous swelling of the eyelid (which may look much like Romaña's sign in Chagas' disease). Depending on the location of the sparganum, there may be elephantiasis (lymph channels), peritonitis (intestinal perforation), or brain abscess. Most patients have leukocytosis and eosinophilia. The sparganum has been reported to live for more than 9 years. In a study from Thailand, 17 cases were ocular, 10 subcutaneous, five CNS, one auricular, one pulmonary, one intraosseous, and one intraperitoneal. Risk factors included a history of drinking impure water, eating frog or snake meat or using frog or snake meat as a poultice; some patients had multiple risk factors. Most of these cases presented with superficial ocular mass lesions. In humans, most coenuri have been located in the brain or spinal cord, but they can also be found in the subcutaneous tissues). Symptoms have been those associated with any space-occupying lesion, including headache, vomiting, paraplegia, hemiplegia, aphasia, seizures, or eye symptoms (if the coenurus is present in the eye).

Clinical Specimen:

Specimens/Tissue The coenurus structure is intermediate between that of a cysticercus with a single scolex and that of a hydatid cyst with both multiple scolices and daughter cysts. The coenurus contains multiple scolices but no daughter cysts.

Laboratory Diagnosis:

Specimens/Tissue: In humans, most coenuri have been located in the brain or spinal cord, but they can also be found in the subcutaneous tissues. Symptoms have been those associated with any space-occupying lesion, including headache, vomiting, paraplegia, hemiplegia, aphasia, seizures, or eye symptoms (if the coenurus is present in the eye). Diagnosis is based on gross and histologic examinations of the coenurus after surgical removal.

Organism Description:

Coenurosis: The coenurus structure is intermediate between that of a cysticercus with a single scolex and that of a hydatid cyst with both multiple scolices and daughter cysts. The coenurus contains multiple scolices but no daughter cysts

Laboratory Report:

Coenurosis: *Taenia (Multiceps)*, *Taenia serialis*

Treatment:

Surgical removal, if possible, is recommended. Although praziquantel has been effective in killing these parasites, there is some concern about the marked inflammation which occurs as a result of treatment

Garcia, L.S. 2007. Diagnostic Medical Parasitology, 5th ed., ASM Press, Washington, D.C.

Control:

An understanding of the manner of transmission among carnivores and herbivores suggests the importance of proper disposal of carcasses of potentially infected herbivores. Also, good personal hygiene for those in close contact with dogs in areas of the world where herbivores are raised (cattle, goats, and sheep) is recommended.