

Lecture (6) : Practical parasite

Second stage

Helminths : are large, multicellular organismseukaryotes , hermaphroditic and bisexual species, can be free-living or parasitic. They are able to live in both humans and animals. Parasitic worms are found within the intestine which called intestinal parasites.

Classification : depends on morphology of egg, larval, and adult stages. The major groups of parasitic helminths include:

- *Platyhelminths* (flatworms)
- *Acanthocephalins* (thorny-headed worms)
- *Cestodes* (tapeworms)
- *Trematodes* (flukes)
- *Nematodes* (roundworms).

Cestodes : Genus :TAENIA

Taenia species (*T. saginata*, *T. solium*) human act as the definitive host and infection occurs by ingestion of undercooked meat—pork in the cases of *T. solium*, and beef in the case of *T. saginata*—that contains encysted larvae.

A) *Taenia solium*

Disease : Taeniasis

Morphology:

The *T. solium* adult has a scolex with four suckers , neck and strobila. A worm has a length of 2–4 m, containing up to 1000 hermaphroditic proglottids. Eggs are spherical. *T. solium* has 7–13 uterine branches per side while *T. saginata* has 15–20 .

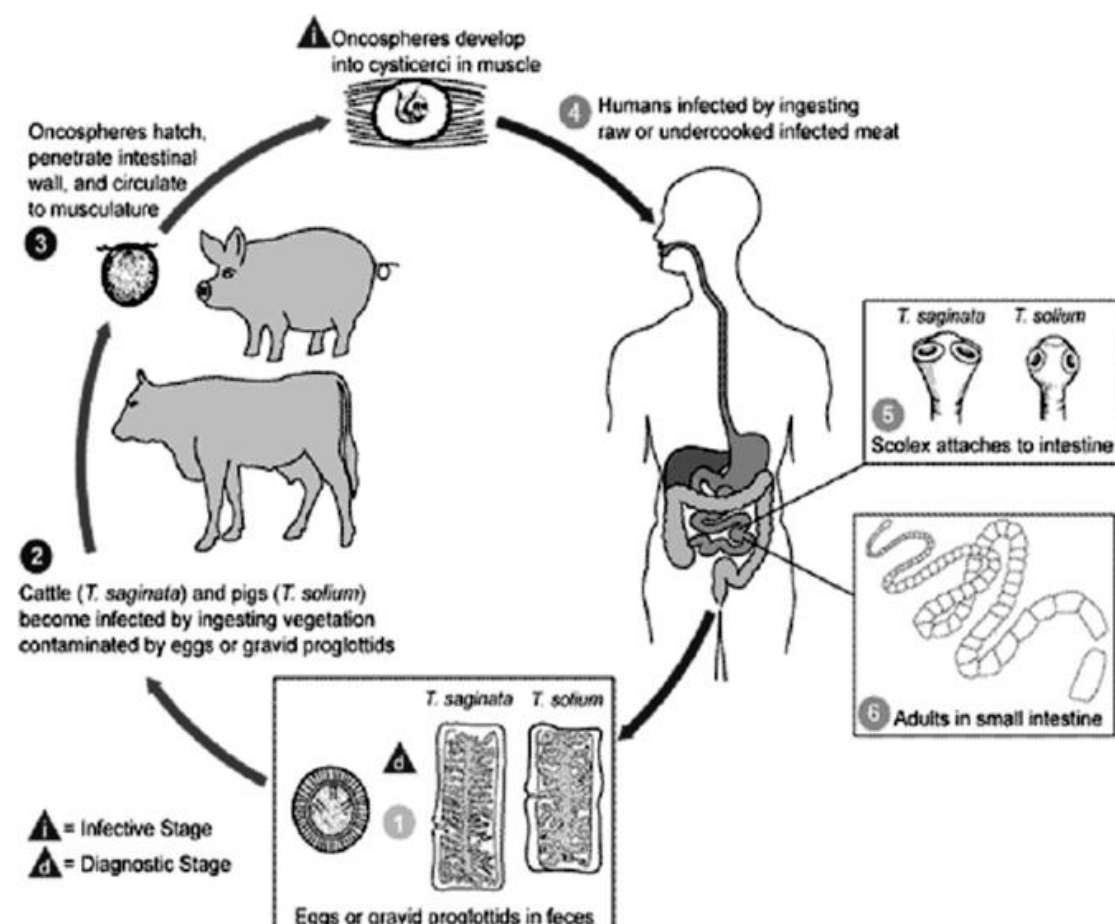
Transmission : Human infected by ingested cysticercos larvae in uncooked pig meat .

Definitive host : Human .

Intermediate host : Pig .

Life cycle of *T. solium* and *T. saginata*

The adult *T. solium* lives in the upper jejunum of human (definitive host).



***Taenia* spp life cycle**

Clinical Aspects :

Infection with the adult *T. solium*, is usually asymptomatic, but may cause epigastric pain, nausea, diarrhea, sensation of hunger, or weight loss.

Diagnosis: Proglottids or the scolex are examined by microscope , proglottids of *T. saginata* are mobile while in *T. solium* proglottids are immobile can be visible in the person's stool.

Treatment : Niclosamide ,praziquantel.

Control : Prevent eating pig meat by human.



Adult worm

Egg

Proglottid

Scolex

B) Taenia saginata

Disease : Taeniasis

Morphology :

Has a scolex with four suckers ,it has a length of 5–10 m and can have more than 1000 Proglottids, *T. saginata* lives in the duodenum of human.



Egg

Adult worm

Proglottid

Clinical Aspects :

Asymptomatic , Proglottids are often motile, thus causing discomfort with discharge .

Transmission : Human infected by ingested cysticercococ larvae in uncooked meat of beef .

Diagnosis: Diagnosis becomes easier if proglottids or the scolex are recovered.

Treatment : praziquantel is highly effective for Cestode infections.

Control : vaccination of cattle has resulted in 94–99% protection against parasite infection .