

## Ovine cysticercosis

### 1-Definition

It is a parasitosis caused by the development of cysticercus larvae in sheep (intermediate hosts), with the adult tapeworm being located in dogs (definitive host). There are two species of the genus *Teania*, *Teania hydatigena* and *Teania ovis*.

-The larva *Cysticercus tenuicollis* of *Teania hydatigena* develops on the posterior surface of the liver and the omentum, causing hepatic-peritoneal cysticercosis in sheep.

-The larvae *Cysticercus ovis* of *Teania ovis* are located in the muscles in the form of rice grain vesicles, causing ovine muscular cysticercosis.

### 2-Etiology

At the Slaughterhouse,

<p>--the larva <i>Cysticercus tenuicollis</i>, belonging to the tapeworm <i>Teania hydatigena</i>, is attached to the omentum, the mesentery, and occasionally to the surface of the liver or other abdominal or thoracic organs (heart-lung). This larva or vesicle appears as small, flaccid balls ranging from 0.5 to 3 cm up to 6 to 7 cm in diameter, consisting of a very thin translucent membrane filled with a colorless liquid. In the vesicle, a small unique white spot corresponding to the scolex can be seen.</p>	<p>--the metacestodes <i>Cysticercus ovis</i> Larvae of <i>Tænia ovis</i> (dog tapeworm) are located in the skeletal and cardiac muscles of sheep in particular, with a diameter of 0.5 cm. At the slaughterhouse, the evolving cysticerci are degenerated; their center is green or cream-colored, with a caseous or calcified content depending on the stages of development.</p>
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### 3-evolutionary cycle

The cycles are similar for both parasites, but what changes is their location in sheep: *C. ovis* is found in the muscle masses, while *C. tenuicollis* is found in the peritoneum and the Glisson's capsule (liver).

The evolutionary cycle is of the digenetic type, requiring two hosts: the intermediate host harboring the larval form (*C. ovis* and/or *C. tenuicollis*) and a definitive host: harboring the adult form (*T. ovis* and/or *T. hydatigena*).

#### 3-1-Cycle of *T. ovis*

The pre-patent period is 2 months. It occurs between canids (Domestic Dog; Coyote; Wolf) and sheep. The dog is the epidemiological reservoir. It becomes infested by ingesting muscles (meat) containing *T. ovis* cysticerci. When the ovigerous segments fill with eggs, they detach and are expelled in the dog's feces, contaminating the grass used as food for sheep. In the sheep, the embryo contained in the egg crosses the digestive mucosa and is then carried by the bloodstream to the muscle masses, where it settles permanently and transforms into a cysticercus larva.

#### 3-2-Cycle of *T. hydatigena*

The prepatent period is approximately 51 days.

The adult worms are located in the small intestine of dogs and domestic or wild canids, which expel the egg-filled segments into the external environment in their feces. The eggs are dispersed in the pasture by the wind and insects. Ruminants become infested by ingesting the eggs, which then cross the intestinal wall to reach the liver in 18 to 30 days, where they migrate thru Glisson's capsule to enter the abdominal cavity.

#### **4-Epidemiology**

-the degree of the disease is related to the proximity between definitive hosts (canids) and intermediate hosts

-In Algeria, hepatic-peritoneal cysticercosis is found in all regions with pastoral farming.

#### **5-Symptoms**

In sheep, there are no clinical signs except in cases where the infestation is intense, in which case hepatic insufficiency is observed.

Diagnosis Impossible in sheep

#### **6-Treatment**

No treatment for vesicles in sheep.

#### **7-Prevention**

Only prevention can eliminate these parasitic diseases:

##### **7-1-Dog treatment**

--Regular deworming of dogs: every three months in an infested herd, with Praziquantel based medications (5 mg/kg).

--Dogs must be kept on a leash after deworming in order to destroy the feces and, if possible, bathed to eliminate the eggs present on their fur.

--The destruction of feces prevents the spread of eggs on a pasture or in hay by a dog that has just been dewormed.

##### **7-2-Preventing dog infestation**

-deworm domestic carnivores regularly

-destroy parasitized offal by incineration.

-never feed dogs with sheep offal,

-prohibit dogs from accessing slaughter areas,

-keep dog feces away from ruminants