



**Lecture title: Helminthology**

**Lecturer Affiliation:** Department of Microbiology , College of Veterinary Medicine, University of Mosul, Mosul, Iraq. **emanganim@uomosul.edu.iq**

**Summary: Helminthology**

Family: Paramphistomatidae

Adult paramphistomes are mainly parasitic in the fore stomachs of ruminants, although a few species occur in the intestine of ruminants, pigs and horses. Their shape is not typical of the trematodes, being conical rather than flat. All require a water snail as an intermediate host..

1-Genus: Paramphistomum

Hosts: Ruminants.

Intermediate hosts: Water snails

Site: Adults in the rumen and reticulum and immature stages in the duodenum.

Species: *Paramphistorruum cervi*

Identification

Gross: The adults are small, conical, maggot-like flukes about 1cm long. One sucker is visible at the tip of the cone and the other at the base.

The egg resembles that of *F. hepatica* being large and operculate, but is clear rather than yellow (The eggs are large (130–180 × 76–95 μm), operculate and morphologically similar to the eggs of *Fasciola hepatica*, but are colourless and not bile-stained yellow in colour )





### Life cycle:

Development in the snail intermediate host is similar to that of *Fasciola* and under favorable conditions (26-30°C) can be completed in four weeks. After ingestion of encysted metacercariae with herbage, development in the final host occurs in the alimentary tract, the young flukes attach in the duodenum and feed there for about six weeks before migrating forward to the fore stomachs where they mature. The prepatent period is between 7 and 10 weeks

### Pathogenesis:

Any pathogenic effect is associated with the intestinal phase of the infection. The young flukes are plug feeders and this results in severe erosions of the duodenal mucosa. In heavy infections these cause an enteritis characterized by oedema, haemorrhage and ulceration. **At necropsy** the young flukes can be seen as clusters of brownish pink parasites attached to the duodenal mucosa and occasionally also in the jejunum and abomasum. The adult parasites in the fore stomachs are well tolerated, even when many thousands are present and feeding on the wall of the rumen or reticulum

### CLINICAL SIGNS:

- 1-diarrhoea
- 2-anorexia
- 3-intense thirst.
- 4-Sometimes in cattle, there is rectal haemorrhage .
- 5-Mortality in acute outbreaks can be as high as 90%.

### DIAGNOSIS:

- 1-clinical signs
- 2-history of grazing around snail habitats during a period of dry weather.
- 3-Faecal examination
- 4-postmortem examination and recovery of the small flukes

**University of Mosul**  
**Lecture No.:**  
**College of Veterinary Medicine**  
**Date:**  
**Unit of Scientific Affairs**  
**Website:**

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