Topic
On
Genus - Dicrocoelium

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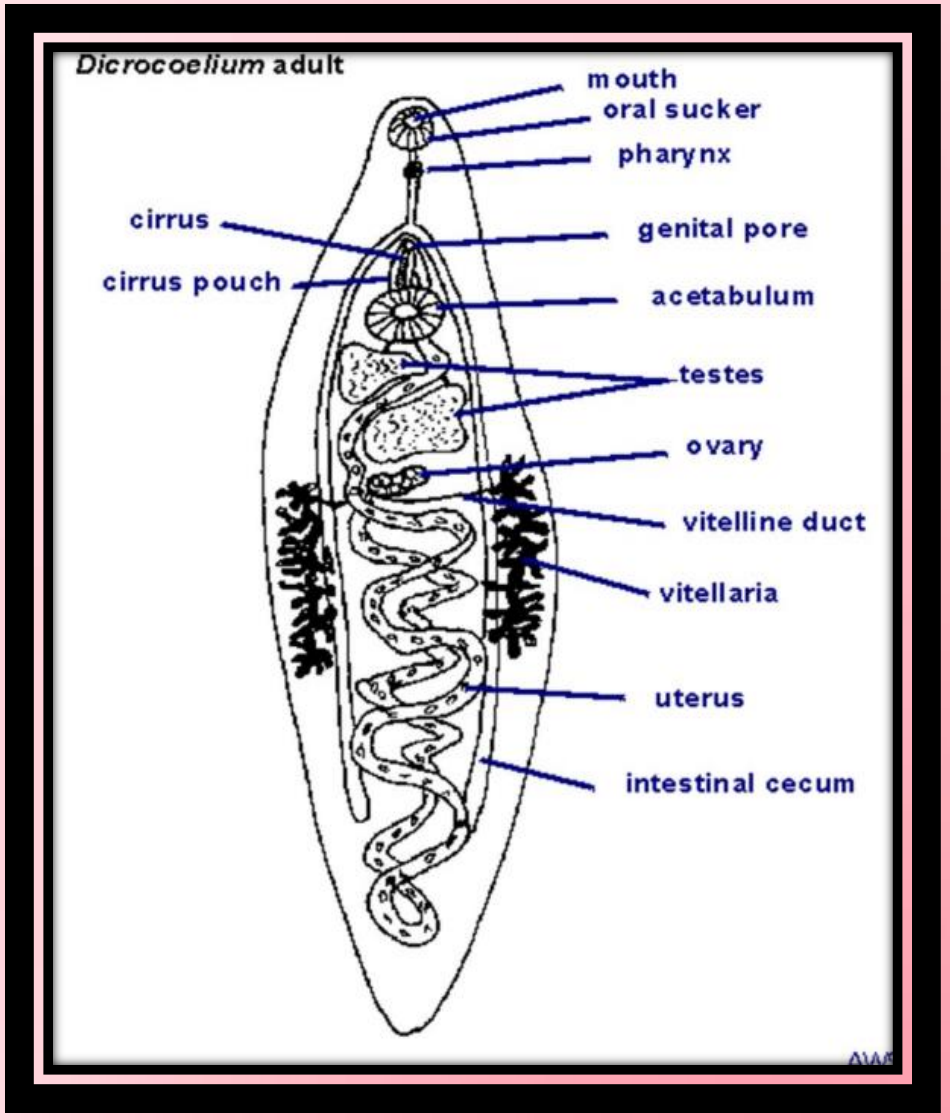
Dicrocoelium dendriticum

Definitive host	**Cattle, sheep, goat, pig & man**
Intermediate host	**1. Land snail : *Macrochlamys cassida, Luastenia monticola*** **2. Ant : *Formica fusca***
Location	**Bile duct**
Common name	**Lancet flukes/blade/needle fluke**

MORPHOLOGY



Size

5-12 mm in length

1-2.5 mm in breadth

Morphology

- **Body is slender, lanceolate shape, flat and pointed anterior & posterior ends.**
- **Smooth cuticle**
- **Oral sucker is smaller than the ventral sucker.**
- **The simple intestinal caeca extend up to the posterior fourth of the body.**
- **Testes are slightly lobed and are tandem in position just below the ventral sucker.**

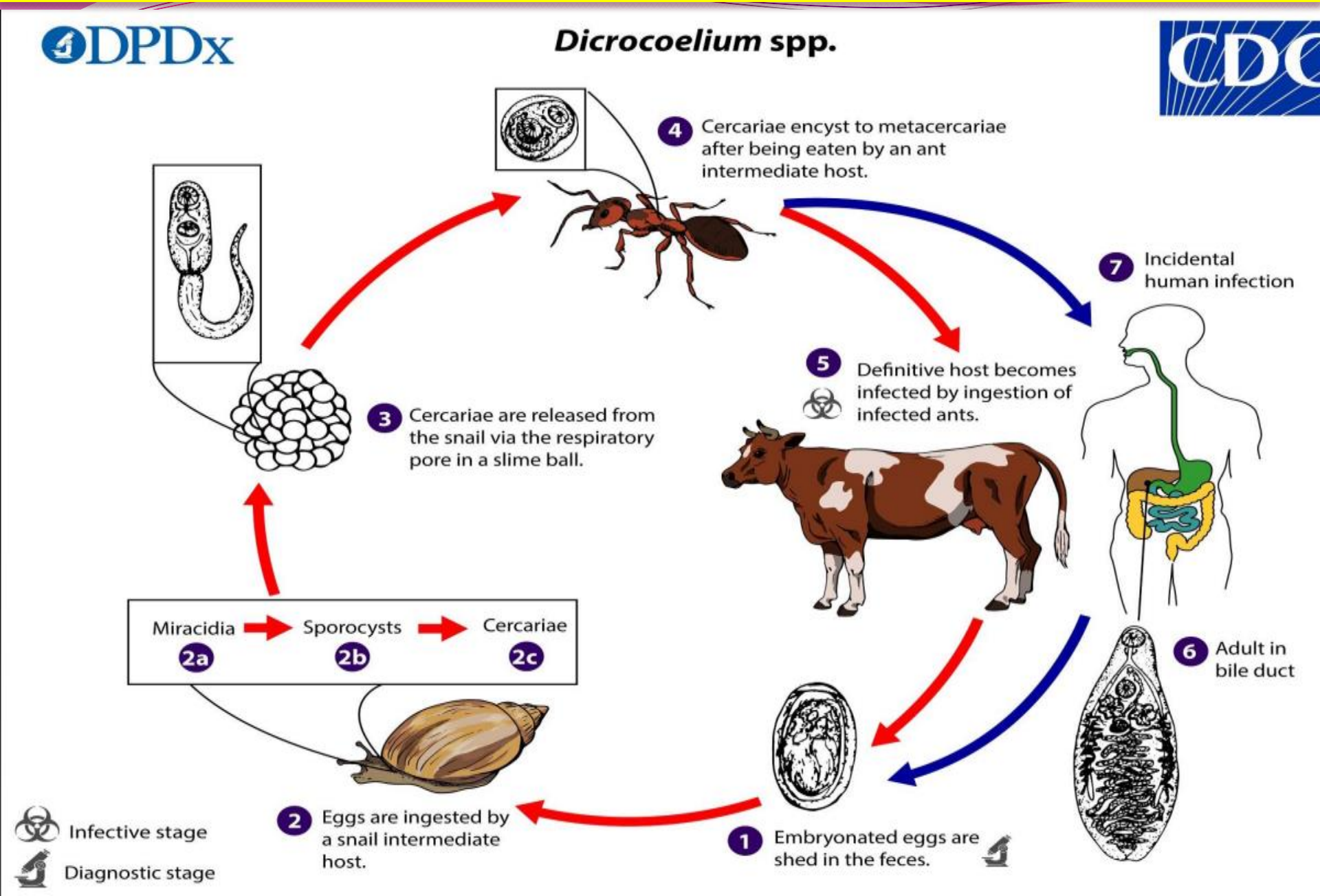
Morphology

- Cirrus pounch is slender & pre- acetabular.
- The genital pore is located in front of the ventral sucker.
- Ovary is rounded, median and present just behind the testes.
- Uterus is quite distinct (filled with brown eggs) and coiled occupying the posterior part of the body.
- Vitellaria occupy the middle third of the lateral region.
- Vitelline glands are restricted to mid lateral region.

Morphology

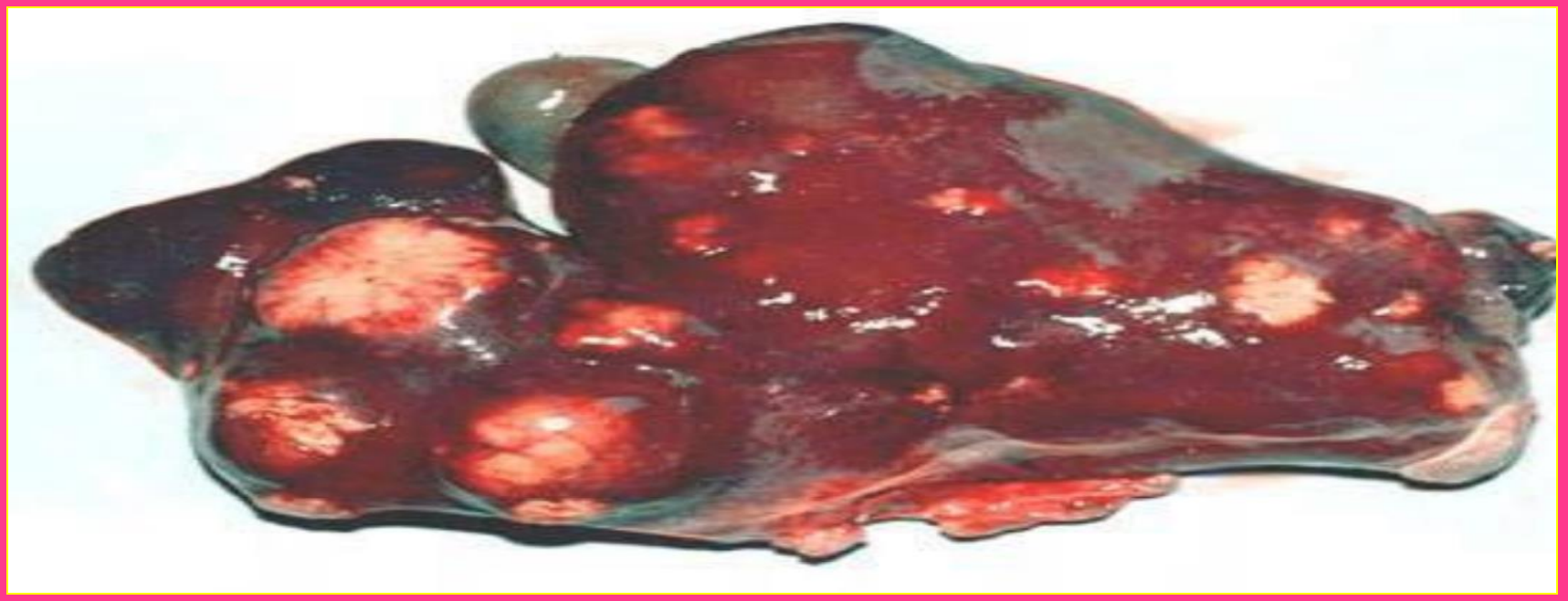
- **Eggs are small dark brown, operculate, embryonated**
- **eggs are thick-shelled**
- **Usually with one side flattened**
- **measure 36-45 µm × 20-35 µm**

LIFE CYCLE


DPDx
Dicrocoelium spp.
CDC
4 Cercariae encyst to metacercariae after being eaten by an ant intermediate host.
7 Incidental human infection
5 Definitive host becomes infected by ingestion of infected ants.
3 Cercariae are released from the snail via the respiratory pore in a slime ball.
Miracidia 2a
Sporocysts 2b
Cercariae 2c
6 Adult in bile duct
2 Eggs are ingested by a snail intermediate host.
1 Embryonated eggs are shed in the feces.
Infective stage
Diagnostic stage

PATHOGENESIS

- **Extensive cirrhosis and scarring of liver surface.**
- **Bile ducts are distended in fibrosis in portal triads, marked proliferation of bile duct epithelium.**
- **In severe cases, edema, anemia and emaciation common in hill region – dicrocoeliosis.**



Dicrocoelium : lesions

DIAGNOSIS

- **Clinical sign: Anaemia & oedema**
- **identification of *Dicrocoelium dendriticum* eggs in the faeces.**
- **Examinination of bile or duodenal fluid for detection of eggs is a more accurate diagnostic technique.**
- **Serological : used in prepatent infections**

  used in low grade of infections

Where coprological examination fails to detect the eggs

Diagnosis

- **IFAT, ELISA & CIEP**
- **An ELISA using a *Dicrocoelium dendriticum* antigen was able to identify cases of dicrocoeliasis in sheep in 28 days earlier than any traditional methods**

TREATMENT

- **Albendazole – 15 mg/kg or 7.5 mg/kg BW**
- **Fenbendazole - Large doses 150 mg/kg BW**
- **Cambendazole- 25 mg/kg BW**
- **Thiabendazole- 200-300 mg/kg BW**

CONTROL

- **Treatment of infected animal**
- **Snail control**
- **Ant control (DDT or benzene hexachloride)**
- **Avoidance of such grazing areas which are inhabited by these, and by treating the affected animals.**
- **Regular deworming atleast twice in a year during early winter & early spring.**


Thank
you