
Genus : Gongylonema

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Gongylonema : Morphology

- They have a typical slender shape with a yellowish-brownish to reddish color.
- The adult males are about 6 where as females are 14 cm long.
- The worm's body is covered with a **cuticle**, which is flexible but rather tough.
- When embedded in the wall of the oesophagos they show a typical zigzag shape.
- They have a tubular **digestive system** with two openings.
- They also have a **nervous system** but **no excretory organs** and **no circulatory system**, Males have chitinous **spicules** for attaching to the female during copulation.
- *Gongylonema* worms are not bloodsucking parasites but feed on tissues and fluids of the host.



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Gongylonema pulcharum

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Zig-zag fashion of worm in esophageal wall

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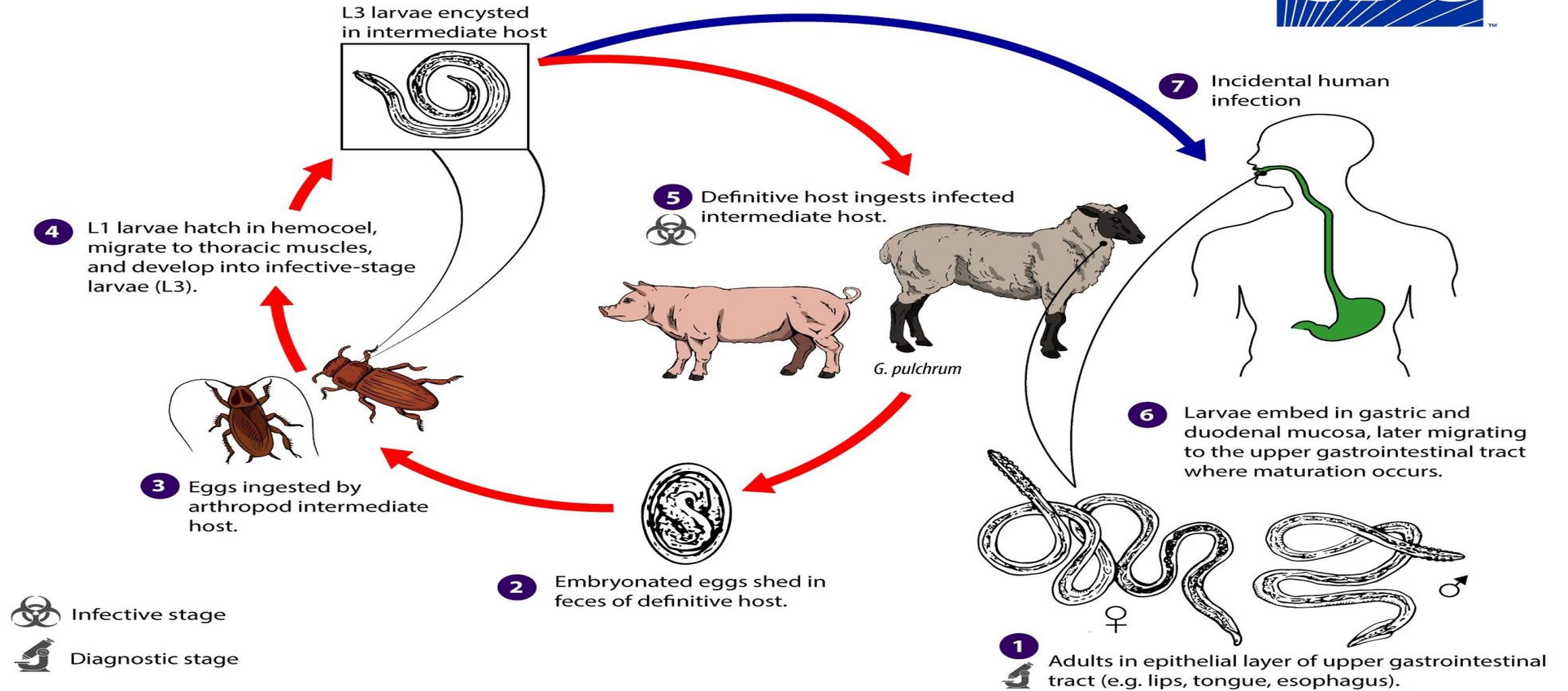
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Zig-zag fashion of worm in esophageal wall

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Gongylonema : Life cycle

- They have an indirect life cycle with sheep, goats, dogs, cats, pigs and birds as final hosts, and dung beetles or cockroaches as intermediate hosts. The vertebrates, including humans, can act as paratenic or transport hosts,
- Beetles or cockroaches eat the eggs shed with the feces of infested hosts.
- These eggs release the L1 larvae inside the intermediate host, which develop to infective L3 larvae.
- The final hosts become infected when eating such infected beetles or cockroaches, either directly with pasture or indirectly through contaminated feed.
- The infective L3 larvae are released in the stomach of the final host.
- Most larvae migrate back to the esophagus and burrow in its wall where they develop to adults and start producing eggs.



Gongylonema : Life cycle

Gongylonema : Pathogenesis

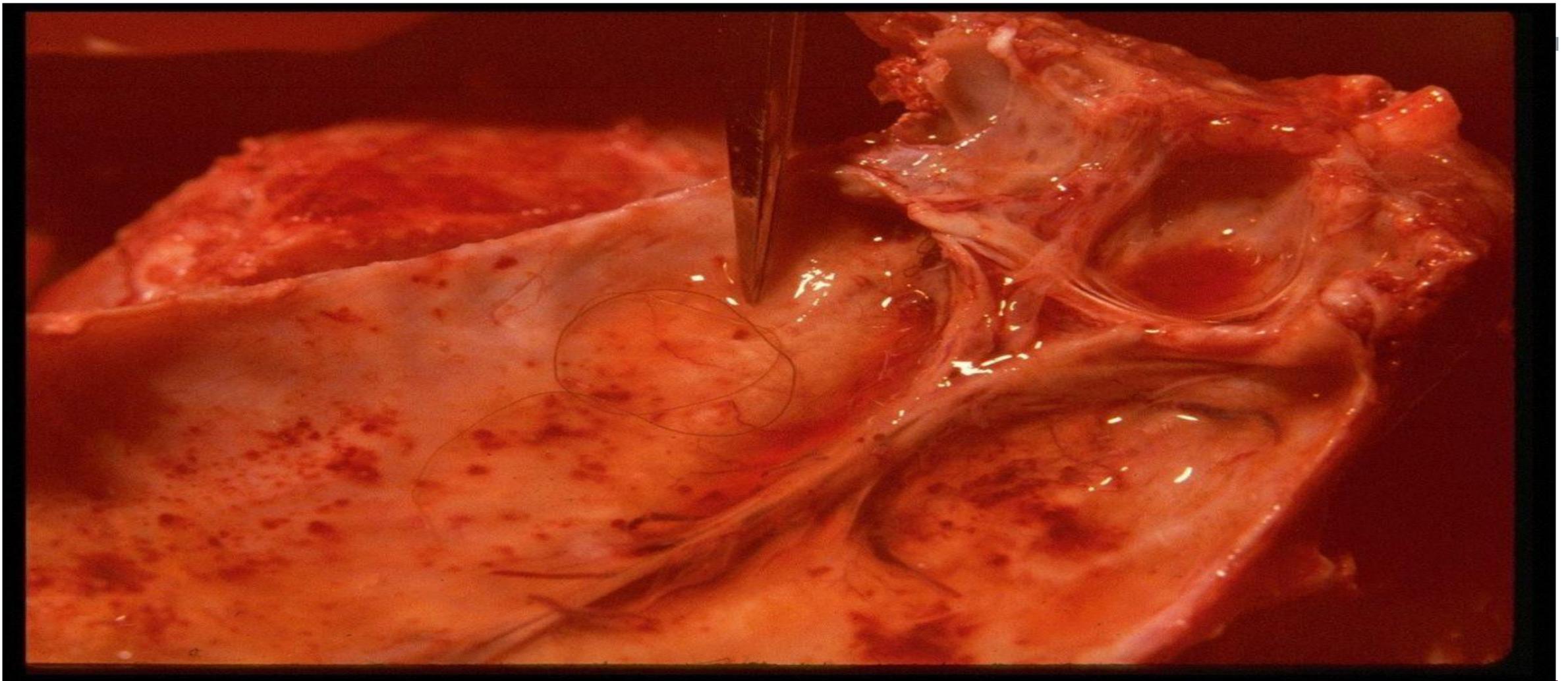
- Infections of livestock, horses or pets are mostly showing no clinical signs.
- A slight inflammation of the oesophagus or stomach wall may occur, but is usually asymptomatic.
- This parasite quickly spreads down the oesophagus, upper digestive and respiratory tracts.
- In human the infection confined to oral cavity, and is often surgically or manually extracted
- Heavy infections lead to gastrointestinal disturbances that cause emaciation.
- The mucosal surface is characterized by irregular circumscribed wart-like thickenings with a finely verrucose surface.



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Gongylonema in oesophagus

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Gongylonema in oesophagus

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Gongylonema : Diagnosis

- Diagnosis is made by visible recognition of the worm moving through the tissue of the buccal cavity .
 - Microscopic identification of worm removed from mouth or tissue.
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Gongylonema eggs

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Gongylonema : Prevention & control

- Best way of prevention is to keep livestock or pets away from pasture or feed contaminated with infected beetles or cockroaches.
 - Deworming livestock with anthelmintics can also be practiced .
 - Now a days no vaccines available against *Gongylonema* worms.
 - Biological control of *Gongylonema* worms is so far not feasible.
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