

Parasitology notes 3

Flat helminthes → Cestodes & Trematodes.

Slide 30+31

Cestodes are the longest worms → No need to memorize the length.

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Cestodes bodies consist of: head, neck & body segments (proglottids).

In the head region there are scolex, suckers & hooks.

Suckers are used for absorption.

Number of segments differs according to the proliferation rate of the worm.

body segments (proglottids) vary in number (3-3000).

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The body systems of the worm are in the body segments.

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Cestodes have separated systems (nervous system, reproductive, ...etc).

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The infective stage for the intermediate host is the fertilized egg.

Cestodes human infections are usually caused by Taenia.

The intermediate host differs from one Cestode to another.

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When reaching the intermediate host the eggs hatch and hexacanth larvae will distribute in the tissue (all types of tissue).

Taenia solium (in the cysticercus form) when reaching the human intestine it can reach the brain tissue and form cysts there. → (the only Taenia worm that can do so).

→ causes seizures especially in children.

→ needs to be surgically removed.

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Taenia egg is small in size in comparison with other Helminthic eggs.

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The infective stage for humans is the cysticercus developmental stage.

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Trematodes are shorter than Cestodes .

***the doctor said we should know the similarities & differences between the groups.

→ (i.e, Trematodes -except Schistosomes-& Cestodes are hermaphrodites).

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Trematodes have bifurcate (double openings) GI tract → two oral openings , NO anal one.

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Forget about the pic .

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Operculum → empty area.

Trematodes have separated systems.

Schistosomes eggs usually have spines and accordingly are classified to:

Eggs with lateral spine → schistosoma mansoni.

Eggs with central spine.

Eggs with no spine!.

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The infective stage for the intermediate host (snail) is the miracidium.

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The infective stage for human is Cercaria.

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Some Trematodes cause infection in liver , GI tract Or urinary tract. (depending on the species).

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Parasitic infection is usually asymptomatic infection (silent infection) but some times minimal symptoms appear or acute infection is induced.

The damage is due to the physical presence of the parasite → i.e, inducing pressure on a tissue (in the brain for example) + what in the slide.

Blood loss with the urine is mainly caused by schistosoma haematobium.

Example of inflammation and tissue death → ameba infection that causes inflammation & death of colonic cells resulting in having mucus & bloody diarrhea.

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DTH: delayed type hypersensitivity reaction → general allergic reaction that is mediated by T-cells.

In differential diagnosis → increased IgE & hypereosinophilia are directly related to the helminthic infections.

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When you suspect to have malaria → use a blood sample.

Schistosoma haematobium infection → use urine sample.

Histopathological examination is the most important diagnostic step in parasitic infections.

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Treatment : mainly anti-helminthic drugs OR surgical operation.

Prevention of transmission is the most important management step.

Vaccination: there are available vaccines for the intermediate host (animals) → NOT for humans.

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