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ANS#01):

➤ LIFE CYCLE OF ENTEROBIUS

VERMICULARIS:

- The life cycle is confined to human.
- The infection is acquired by ingestion the worms eggs.
- The eggs hatch in the small intestine, where the larvae differentiate into adults and migrate to the colon.
- The adult male and female worms live in the host.

➤ EGG OF ENTEROBIUS

VERMICULARIS:

- Left adhesive tape preparation showing egg of E.V recovered from anal skin. (It is colorless).
- Right E.V egg in feces (Oval in shape and usually flattened on one side).

➤ PATHOGENESIS:

- Perianal pruritus is the most prominent symptom.
- Pruritus is thought to be an allergic reaction to the presence of either the adult female or the eggs.

- Scratching predisposes to secondary infection.

➤ **LABORATORY DIAGNOSIS:**

- The eggs are recovered from perianal skin by its lab method.

ANS#02):

➤ **PATHOGENESIS OF ASCARIS:**

- Human are infected by ingestion worms eggs or water contaminated with human feces.
- The eggs hatch in the small intestine, and the larvae migrate through the gut wall into the blood stream and then to the lungs.
- They enter the alveoli, pass up the bronchi and trachea, and swallowed.
- **MIAN PATHOGENESIS:**
- The major damage occurs during larval migration rather than from the presence of adult worm in the intestine.
- The principal sites of tissue reaction are the lungs, where inflammation with an eosinophilia exudate occurs in response to larval antigens.
- Because the adults derive their nourishment from ingested food, a heavy worm burden.
- **EGG OF ASCARIS:**
- Usually fertilized eggs are found in feces but occasionally infertile eggs are produced by unfertile female worms.
- **FERTILED EGG:**
- Yellow brown oval or round.
- Shell is often covered by a UN even aluminous coat.

ANS#03):

➤ **ENTAMEOBA HISTOLYTICA:**

- **TRANSMISSION:**

- Fecal oral route with contaminated water and food.
- **INFECTIVE STAGE:**
- Mature cyst
- **LOCALIZE:**
- Large intestine
- **INFECTIONS:**
- Two types:
- Amoebic dysentery
- Extra intestinal amoebas
- **AMEOBIC DYSENTRY:**
- Inflammation of gut
- Large intestine
- Painful diarrhea containing blood and mucous caused by ulcer formation.
- **ENTAMEOBA HISTOLYTICA HAS TWO MAIN FORMS:**
- A)CYST FORM:
- Infective in nature
- Spherical in shape

And now this cyst can infect new human by contamination of drinking water as unhygienic food.

So essentially in non-invasion infection these Trophozoites will live in human body asymptotically as cause mild diarrhea.

B) TROPHOZOITES FORM:

- 15 to 30um diameter.
- Shape like amoeba.



LIFE CYCLE:

1) Cyst due to mouth

2) Small intestine:

Each cyst divides to produce 8 trophozoites in small intestine.

3) trophozoites will then move to colon of the large intestine these trophozoites will start colonization.

Now they can cause two types of infection:

INVASIVE INFECTION: occurs 10%.

Serious condition

NON INVASIVE INFECTION:

Occurs 90% of the time

Not severe.

HT is on the surface of the mucous layer and can multiply by binary fusion, colonized at the surface of mucous membrane and will form new cyst.

After entering the blood the trophozoites can target other organs.

So, in invasion through the blood stream trophozoites can infect other sites such as liver lungs brain.

➤ LAB DIAGNOSIS:

Fecal examination of cyst,

ANS#05):

➤ LEISHMANIA SPECIES NAMES:

- LEISHMANIA DONOVANI, (KALA AZAR (VISCERAL LEISHMANIA))
- LEISHMANIA TROPICA, (CUTANEOUS LEISHMANIASIS)
- LEISHMANIA MEXICANA, (CUTANEOUS LEISHMANIASIS)
- LEISHMANIA BRAZILIENSIS, (MUCOCUTANEOUS LEISHMANIASIS)

➤ CLINICAL FINDING OF ALL SPECIES OF LEISHMANIA:

01) LEISHMANIA DONOVANI:

- Symptoms begin with intermittent fever,
- Weakness

- Massive enlargement of the spleen is characteristic
- Black sickness

➤ LABORATORY DIAGNOSIS:

- ✚ Diagnosis is usually made by detecting amastigotes in a bone marrow, spleen or lymph nodes biopsy preparation.

➤ 02)

LEISHMANIA(TROPICA,MAXICANA,BRAZILIENSIS):

- The initial lesion of cutaneous leishmaniasis is a red papule at the bite site usually on an exposed extremity.
- This enlarges slowly to form multiple satellite nodules that coalesce and ulcerate.
- There is usually a single lesion that heals spontaneously in patients with a competent immune system.
- However in certain individuals,
- Mucocutaneous leishmaniasis begins with a papule at the bite site, but then metastatic lesions form, usually at the mucocutaneous junction of nose and mouth,
- Ulcerating lesions destroy nasal cartilage but not adjacent bone.
- These lesions heal slowly.

➤ LABORATORY DIAGNOSIS:

- Diagnosis is usually made microscopically by demonstrating the presence of amastigotes.

➤ **DIGNOSE TRYPANOSOMA CRUZI**
INSIDE THE LABORTORY:

- Acute disease is diagnosed by demonstrating the presence of trypomastigotes in thick or thin films of the patients' blood'
- Both stained and wet preparation should be examined,
The latter for motile organism,
- Because the trypomastigotes or not numerous in the blood, other diagnostic methods may be required namely a stained preparation of a bone marrow..

THE END
