

## **Parasites:**

Entamoeba histolytica:

**Habitat:** large intestine (ceacum, colonic flexure, sigmoidorectal region)

**D.H:** man

**R.H:** man, monkey, dogs, pigs, rats

**Disease:** amebiasis, amoebic dysentery

**Infectious stage:** quadrenucleated cyst

**Diagnostic stage:** both cyst and trophozoite

Diarheal stool..... trophozoite (acute dysentery)

Formed stool.....cyst

**Mode of transmission:**

\*(auto infection) feco-oral by ingestion of quadrenucleated cyst contaminated by stool through encystation from patient as immature cyst.....quadrenucleated cyst at stool (non invasive).....ingestion in contaminated food and water.....mature cyst .....excystation (one cyst gives 8 trophozoites).....trophozoite migrates to large intestine... multiply by binary fission .... *تطلع مع البراز* by encystation and invade intestinal mucosa and go to lung, liver, brain

\*contaminated food and water

\*food handler

\*flies and cockroaches

## **Parasites:**

### **Intestinal amobiasis:**

Asymptomatic: healthy carrier , cyst passer,ex:food handler

Symptomatic;

**Acute amoebic dysentery** ;fever abdominal cramp, blood, mucus,trophozoite in stool,WBC,RBC, diarrhea,loose stool

**Chronic amoebic dysentery**;acute not treated , low grade fever, diarrhea+constipation, only cyst on stool

### **Complications:**

Hemorrhage

Perforation

Appendicitis

Amoeboma

### **Histology;**

Flask shape; cytolized cells,trophozoite,mucus

The most common site of amoebic ulcer is;caecum, colonic flexure , sigmoidorectal regions

### **Extraintestinal amobeiasis:**

Liver....right lobe....liver abscess ,hepatitis

## **Parasites:**

Lung...right lower part of right lung... lung abscess,pneumonitis

Brain... brain abscess, encephalitis

Skin....cutaneous amoebiasis

**Microscopic examination** (intestinal amoebiasis):

Direct:

**Macroscopic:**loose stool with mucus and blood

**Microscopic:**

Stool examination;

Diarheal stool(trophozoite)

Formed stool(cyst)

Sigmoidoscopy ;to see ulcer

X ray; barium enema to see ulcer or stricture

**Extraintestinal amoebiasis:**

Direct;

\*X ray

## **Parasites:**

Liver;lesion

Lung ;elevation in diaphragm

\*ultrasonography

\*aspiration of abscess

## **Treatment;**

Asymptomatic :luminal

amoebicide:paromomycin,diloxanide furoate

Intestinal amoebiasis;tissue amoebicide;metronidazole  
,**tinidazole** (the drug of choice)

Extraintestinal amoebiasis;tissue and luminal  
amoebicide;metronidazole,paromomycine ,diloxanide  
furoate

## **Prevention**

Boiling of water

Using high doses of chlorine and iodine

Eradication of fecal contamination of food and water

## **Parasites:**

**Giardia duodenalis**:ex: giardia lamblia

Protozoa

Both trophozoite and cyst in life cycle

Habitat;small bowel,crypts of duodenum

Attached to host epithelium vili by ventral disk

Trophozoite; heart shape

Cyst;spherical shape

Mode of transmission; feco-oral

Disease;giardiasis

Asymptomatic;treatment not recommended

Symptomatic;

Watery diarrhoea,fatty greazy foul smelling , abdominal cramp , no wBC no RBC ,(vomiting ,tenesmus not common)

Infective form:cyst

Diagnostic form:trophozoite

Diagnosis;

Stool specimen;cyst and sometimes trophozoite

Antigen detection ;specific and sensitive

Treatment ;metronidazole,tinidazole

**Cryptosporidium spp**

C.parvum;human,mammals

## **Parasites:**

C.hominis ;human

Oocyst....sporozoite....merozoite....oocyst

Normal individual ....self limited diarrhea

Immunocompromized patients ....severe diarrhea

Abdominal pain,vomiting .... both

**Diagnosis;**oocyst in stool

**Treatment;**self limited, oral ,IV rehydration

Nitazoxanide , for HIVpatients

## **Ascaris;lumbricoides**

Female longer

Male curved at posterior end

**Mode of transmission,**

Feco-oral

Reinfection

**Habitat**

Small intestine

## **Parasites:**

Infected stage; embryonated egg

Diagnostic stage; unfertilized egg

They hatch in small intestine, break into alveoli then to bronchial tree before they are swallowed then develop to mature worm

Disease; ascariasis

Many of cases asymptomatic

Symptomatic;

Respiratory syndrome; loeffler syndrome

GI manifestation; malnutrition ,

malabsorption, anemia, jaundice, biliary obstruction

### **Diagnosis**

Eosinophilia, infiltrate

Microscope; eggs

Smear ; fertilized , unfertilized eggs

Adult worm in feces

Larvae; gastric aspirate, sputum

Treatment; albendazole

**Enterobius vermicularis; pin worm**

## **Parasites:**

Small ,thin ,white worm

**Habitat**;large intestine(caecum)

Die after fertilization

**Mode of transmission**;

Fecal-oral

Inhalation

Sexual transmission direct from infected persons

Associated with crowding and families

*Hatch in small intestine, migrate at night to perianal area and lay eggs , and eggs develop and go back by the same way at night*

**Symptoms**;

Itching

Apendicitis

Oopharitis

Bowel lesions

**Diagnosis**;American football shape ,flat at sides

**Method**;scotch tape (cellophane) لزقة على perianal area  
الطفل then put it on slide

**Treatment**;albindazole



## **Parasites:**

**Hydated cyst;** echinococcus granulosus ,the smallest tapeworms

Found in Definitive host;canine ingested by ;intermediate host(sheep,cattle,human)

Human;accidental host (the life cycle stop can't be continued)

Hydated disease; dangerous depending on location and size of cyst

Diagnosis;radiology;serology

Treatment;albindazole, surgery

Grape like cysts found in liver ,lung ,muscle ,spleen ,kidney,heart,bone,brain

Slow growing cyst

**Sichostomiasis**(bilharziasis ) مرض البلهارس

Caused by sichostosoma

Sichostosoma Manson I;inferior mesenteric vein

Sichostosoma japonicum; superior , inferior mesenteric vein

Habitat;portal venous system

## **Parasites:**

By blood go to liver and lung then by portal vein go to rectal veins

Have oral sucker on anterior surface, ventral sucker on ventral surface

Male ;flat ,leaf like Folded to form gynacophoric canal to fold female

## **Pathogenesis**

Penetrate skin;itching

Production of eggs ;granulomatous reaction and sclerosis

Portal hypertension ,esophageal varices ,HSM,liver failure

## **Diagnosis;**

Detect ova in stool or tissue biopsy

## **Treatment;**

Praziquantel , single dose