

**Course Title: Clinical mycology and parasitology** : **Instructor: Ms. Huma Imtiaz**

**Student: shamsut tamraiz** : **ID card: 14537**

**BS, MLT 4th.** :

**Q1) Enlist Leishmania species names, Summarize the clinical findings of all species of Leishmania.**

**Leishmania species names,**

- a) Leishmania tropica.
- b) Leishmania donovani.
- c) Leishmania aethiopica.
- d) Leishmania mexicana.
- e) Leishmania braziliensis.
- f) Leishmania donovani.
- g) Leishmania infantum.
- h) Leishmania chagasi.
- I) Leishmania major.,

And more,

**The few species of Leishmania clinical findings on the following,**

**Leishmania chagasi,**

Include fever and splenomegaly with or without hepatomegaly. The diagnosis is made by a splenic or bone marrow aspirate showing amastigotes,

**Leishmania Mexicana,**

The initial lesion of coetaneous 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.

**Leishmania braziliensis,**

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, if cell-mediated immunity does not develop, the lesions can spread to involve large areas of skin and contain enormous numbers of organisms.

**Leishmania donovani,**

Symptoms begin with intermittent fever, weakness, and weight loss, the spleen is characterized by large enlargement, skin hyper pigmentation is seen in mild patients (black excuse means black disease, the disease lasts for months to years Initially, patients feel significantly better despite a persistent fever, when anemia, leucopenia, and thrombocytopenia deepen, weakness, infection, and bleeding in the stomach, Acute illness under treatment is always fatal as a result of a secondary infection.

### **Leishmania tropica,**

Based on these clinical and findings, the patient was diagnosed with both catechinous and vestrotropic leishmaniasis caused by *Leishmania tropica*. A 28-day course of intravenous pentavalent antimonies compound sodium stibogluconate was provided under the Therapy Centers for Disease Control and Prevention, Atlanta, Georgia, under a new investigative drug protocol for investigation. A protocol was performed to monitor possible adverse effects in our patient, including a weekly electrocardiogram, a complete count of white blood cells, a comprehensive metabolic panel, and a measurement of pancreatic enzymes. The patient successfully completed the treatment. He developed mild hypomagnesaemia, but was immediately corrected with oral supplementation.

### **Leishmania major,**

*Leishmania major* cause to cutaneous Leishmaniasis,

A cross-sectional survey was conducted on 166 patients. Diagnosis was made by microscopic examination of both stained tissue scraping smears and polymers chain reaction, the *Leishmania* species was identified by Ribosomal Internal Transcribe Spacer 1 region-bound enzyme analysis. Clinical polymorphism was analyzed only for patients identified with a positive diagnosis for CL and *Leishmania major*

**The end...**

## **Q2) how will you diagnose Trypanosome Cruzi inside a laboratory.**

### **Introduction of trypanosome Cruzi,**

Trypanosome Cruzi is a protozoan parasite and an agent of human Chagas disease. Chagas disease is the most influential infectious disease in the most common cause of infectious myocarditis in the universe. Parasite trypanosome Cruzi Also known as chagas disease,

### **Trypanosome Cruzi laboratory diagnosis,**

Now on the basis of acute and chronic phase diagnosis are the following at.

During the acute phase of the infection, parasites can be seen circulating in the blood. Chagas disease can be diagnosed by microscopic examination of a parasite in a blood smear. According to the concept of parasites, blood is a thick, thin and stained blood.

Chronic chagas disease is diagnosed by considering the patient's medical outcomes as well as the likelihood of infection, such as living in a country where Chagas is common. Diagnosis is usually made by testing for parasite-specific antibodies. If you have the signs and symptoms of Chagas disease, blood tests can confirm the presence of T. circulate parasites or proteins that make up your immune system to fight the parasite in your blood.

During the chronic phase, serology tests should be used to detect anti-t. Some of the techniques most often used by Cruzi antibodies are: enzyme-linked immunosorbent assay (Elisa), indirect hem agglutination assay, indirect immunofluorescence assay, western spots and rapid diagnostic tests such as immunochromatography.

Rigorous research objectives, molecular tests (qualitative and quantitative polymerase chain reactions) and pathological tests (haemoculture and nutritional diagnostics - can also be used with screening for trichomine worms fed by the blood of an infected patients.

**The end**

**Q3) Explain the transmission and life cycle of Entamoeba histolytic a in detail.**

**What is Entamoeba histolytic a.**

Amoebiasis is a disease caused by the parasitic antimoba histolytic a. It can affect anyone, although it is more common in people living in tropical areas with poor sanitary conditions. Diagnosis can be difficult because when viewed under a microscope, other parasites look similar to Entamoeba histolytic a. Affected people are not always sick. If your doctor determines that you are infected and you need treatment, medicine is available.

**Transmission,**

Entamoeba histolytic a is spread by ingestion of the cystic form (infection stage) of protozoa. To stay in the environment for weeks to months, drains can be found in contaminated soil, fertilizer or water, or in the contaminated hands of food drinkers. Focal oral transmission can also be used for anal sex or direct rectal injection through colonial irrigation devices.

Stress then occurs in the terminal ileum or colon, resulting in trophozoites (invasive shape). Trophozoites can invade and invade the colonial mucosal barrier, causing tissue destruction, bloody diarrhea, and colitis-like inflammatory bowel disease. In addition, trophozoites can spread Stress then occurs in the terminal ileum or colon, resulting in trophozoites (invasive shape). Trophozoites can invade and invade the colonial mucosal barrier, causing tissue destruction, bloody diarrhea, and colitis-like inflammatory bowel disease. In addition, trophozoites can spread hematogenously to the liver or to distant organs through the circulation of the portal. to the liver or to distant organs through the circulation of the portal.

**Life cycle of Entamoeba histolytic a,**

Cysts and trophozoites pass through the Pecs 1. Cysts are usually found in formed stools, while trophozoites are usually found in diarrhea stools. Infection with Antimoba histolytic a is caused by the consumption of artificially contaminated food, water, or adult Cysts 2 in the hands. Excitation 3 is found in the small intestine and trophozoites 4 are released, which are transmitted to the large intestine.

Trophozoites multiply by binary fission and form Cysts 5, and both stages pass through the mill 1. Due to the protection provided by their walls, they can survive in the external environment for many days to weeks and are responsible for their migration, trophozoites that pass into the stool are rapidly destroyed once outside the body, and if ingested will not escape exposure to the gastric environment. In many cases, trophozoites are confined to the intestinal lumen.

**Two types of infection are,**

**1)/ invasive infection,**

**2)// noninvasive infection,**

**A,** noninvasive infection of individuals who are of individuals who are asymptomatic carriers, passing cysts in their stool, in some patients the trophozoites invade the intestinal mucosa.

**B**, intestinal disease, or, through the bloodstream, extra intestinal sites such as the liver, brain, and lungs

**C**, extra intestinal disease, with resultant pathologic manifestations, it has been established that the invasive and noninvasive forms represent two separate species, respectively *Entamoeba histolytica* and *Entamoeba dispar*. These two species are morphologically indistinguishable unless *Entamoeba histolytica* is observed with ingested red blood cells erythrophagocytosis. Transmission can also occur through exposure to fecal matter during sexual contact in which case not only cysts, but also trophozoites could prove infective.

**The end...**

#### **Q4) Describe pathogenesis of Ascaris,**

##### **What is Ascaris,**

*Ascaris* parasite is a genus of pneumothorax called "round intestine worm", a type of parasitic worm. One species, *Ascaris lumbricoides*, infects humans and causes ascariasis. Another species, *Ascaris suum*, usually affects pigs.

##### **Pathogenesis,**

The pathogenesis of ascariasis is usually organ damage and the host's reaction to larval transmission, as well as the number of adult worms in the body and related. *Ascaris* larvae, which migrate through the intestinal mucosa, liver and lungs, are highly sensitive to human hosts. Some larvae can move and cover with eosinophils, forming granulomas. In the lungs, the movement of larvae through blood vessels results in anemia in spaces. Olivia is inflamed. The alveolar sacs are filled with cerebrospinal fluid, peripheral bronchial tissues are infiltrated by eosinophils and neutrophils, and mucus production in the bronchi is increased. Known as Löffler syndrome, it causes dry cough, high fever and bronchial asthma. The effects are most severe when the larval population is high or when the transmission is seasonal.

The presence of adult *A. lumbricoides* in the intestines causes abnormal changes in the lining of the vaginal mucosa and intestinal muscles. There is a grass of the mucosal fold, a decrease in depth, a decrease in the production of mucus and a hypertrophy of the intestinal muscle layers, Protein is associated with a lack of energy, malnutrition, and poor cognitive function in children with ascariasis. Due to its large size and collective and migratory activities, the adult *Ascaris* often overcomes serious complications. Fever, the integration of certain medications or food by the host, and surgical anesthesia have, been suggested as factors predicting the transfer of worms from their normal location. The worms move towards the upper gastrointestinal tract, in severe infections, many insects can cause intestinal obstruction caused by fish, It can be accompanied by complications such as anthrax, valvulitis, hemorrhagic infections and intestinal infections, to pierce Biliary duct, hepatic abscess, acute pancreatitis, acute appendicitis, peritonitis, and obstruction of the upper respiratory tract are also reported Laboratory workers have been reported to have allergic reactions such as asthma, isophilia and urticaria, which have been shown in previous exposure to *Ascaris* worms.

**The end...**

**Q5) Write down the life cycle of Enterobius vermicular is,**

**What is enterobius vermicular is?**

The nematode (round worm) Enterobius vermicular is widely called the human pinworm because of its long, pointed tail. In some areas the common names "set worm" and "threadworm" are used later also referred to as Strongyloides stercoralis.

**Life cycle of Enterobius vermicular is.**

Gravity Adult females lay enterobiasis vermicular eggs on the parietal layer. Infection occurs through self-inoculation (transfer of eggs from mouth to hands that has scratched the parietal area) or exposure to eggs in the environment such as contaminated surfaces, clothing, bedding, etc.

After hatching of infected eggs, larvae hatch in the small intestine and adults establish themselves in the large intestine, usually in squalors cell colon.

Infected females in adult females have an interval of about one month from fertilization to ovulation. Adult females range in age from 8 to 13 mm, and adult males from 2 to 5 mm. Adult life span is about two months. Gravity crawls on the skin of the parietal area and moves outside the anus and ovipositor at night.

The larvae inside the eggs are ready in 4 to 6 hours under maximum conditions.

Rarely, eggs can be airborne and swallowed by breathing. Retro infection, or migration of new larvae lost from the anus to the rectum, may occur, but the frequency is unknown.

**The end...**