



**MEDICAL UNIVERSITY - PLEVEN**

**Faculty of Public Health**

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**DISTANCE LEARNING CENTRE**

**DEPARTMENT OF INFECTIOUS DISEASES, EPIDEMIOLOGY,**

**PARASITOLOGY AND TROPICAL MEDICINE**

**PRACTICAL EXERCISES – THESES**

**LYMPHATIC FILARIASIS.**

**ONCHOCERCIASIS.**

**FOR E- LEARNING IN TROPICAL MEDICINE**

**ENGLISH MEDIUM COURSE OF TRAINING**

**SPECIALTY OF MEDICINE**

**ACADEMIC DEGREE: MASTER**

**PROFESSIONAL QUALIFICATION: DOCTOR OF MEDICINE**

**PREPARED BY MARTIN LALEV, M.D**

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**1. Object of the practical class:** Introduction to Lymphatic filariasis and Onchocerciasis - etiology, life cycle, pathogenesis, clinical symptoms, diagnostics, treatment and prevention.

## **2. Short theory**

**2.1** . Etiology, morphological forms and life cycle of Lymphatic filariasis and Onchocercosis. Localization of the different parasites in the host and pathogenesis.

2.1.1. Filariasis is a disease of lymphatic obstruction. Adult worms reside in the lymphatic system. Inflammation results in obstruction of lymphatic flow .

2.1.2. Onchocerciasis, also known as river blindness is a parasitic disease caused by *Onchocerca volvulus* and transmitted by blackflies.

**2.2** . Stages, clinical forms and complications of the filarial parasitic diseases.

2.2.1. Clinic of Lymphatic Filariasis- Funiculitis ( inflammation of spermatic cord) may be acute manifestation, Hydroceles are common, Characteristic dependent edema of legs, scrotum, breasts

2.2.2. Clinic of Onchocerciasis- Some people do not experience symptoms. Many do have symptoms, which include itchy skin rashes, nodules under the skin, and vision changes. Symptoms of onchocerciasis also caused by the body's response to dead or dying larvae. The inflammation caused in the skin can cause thinning and changes in the color of the skin that result in a "leopard skin" appearance .Losing elastic tissue gives the skin a "cigarette-paper" appearance and can contribute to conditions such as "hanging groin."The inflammation caused by larvae in the eye results in reversible lesions on the cornea that without treatment progress to permanent clouding of the cornea, resulting in blindness.

**2.3** . Diagnostics

2.3.1. Diagnostic of Lymphatic filariasis

2.3.1.1. Diagnosis is usually clinical.

2.3.1.2. *Microfilaria*(mf) may be found in peripheral circulation at night; peripheral smear drawn at midnight most successful.

2.3.1.3. Standard method: identification of microfilariae in a blood smear by microscopic examination, identification of microfilariae in a blood smear by microscopic examination (Giemsa staining).

2.3.2. Diagnostic of Onchocerciasis

2.3.2.1. In patients with nodules in the skin, the nodule can be surgically removed and examined for adult worms.

2.3.2.2. Infections in the eye can be diagnosed with a slit-lamp examination of the anterior part of the eye where the larvae or the lesions they cause are visible.

2.3.2.3. Antibody tests have been developed. Some of the tests are general tests for infection with any filarial parasite and some are more specific to onchocerciasis.

## **2.4. Treatment - main therapeutical drugs, doses, side effects of treatment**

2.4.1. Ivermectin – alone or in combination with Albendazole

2.4.2. Diethylcarbamazine ( DEC ) may be given over 1 or 12 days (6 mg/kg/day). Before DEC treatment need exclude onchocerciasis. DEC can worsen onchocercal eye disease.

2.4.3. Side effects of treatment: DEC treatment may cause fever, systemic reactions and lymphadenitis.

## **2.5. Epidemiology and prevention – source of parasitic infection, mechanisms, distribution, prophylaxis, control and prevention.**

2.5.1. Vector control - enviromental management, expanded polysteitene beads, larvicide.

## **3. Microscopy of microscopic slides with the parasites.**