SCROTAL FILARIASIS

Guide

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Introduction»»

- *Lymphatic filariasis, commonly known as elephantiasis, is a neglected tropical disease. Infection occurs when filarial parasites are transmitted to humans through mosquitoes.*

- *The painful* and *visible disfiguring manifestations of the disease, lymphedema, elephantiasis and scrotal swelling occur later in life and can lead to permanent disability.*

- *Scrotal filariasis is a manifestation of filariasis and refers to scrotal involvement from parasitic nematodes of the superfamily filarioidea*,

EPIDEMIOLOGY

It is known disease of the tropics and sub-tropics and a cause of morbidity in Asia, Africa and the Western Pacific regions

ETIOLOGY AND PATHOLOGY

Filarial nematodes (filariae) are transmitted via mosquito bite to humans. The nematodes invade the skin and then the lymphatics, where they form nests and multiply.

Lymphatic filariasis is transmitted by different types of mosquitoes

Culex mosquito: Widespread in urban and semi-urban areas

Culex mosquito: Wide spread in urban and semi-urban areas

Anopheles : Mainly in rural areas

Aedes : Mainly in endemic islands in the Pacific.

Lymphatic filariasis is caused by infection with nematodes (roundworms) of the superfamily Filarioidea.
There are three types of these thread like filarial nematodes

Wuchereria bancrofti : Responsible for 90% of cases

Brugia malayi : Causes most of the remainder of cases

Brugia timori: Causes a minority of cases

The worms can live for approximately 6-8 years and during their life time

produce millions of microfilariae (immature larvae) that circulate in the blood

Adult nemotades lodge in the lymphatic system and dispruit the immune system

CLINICAL PRESENTATION

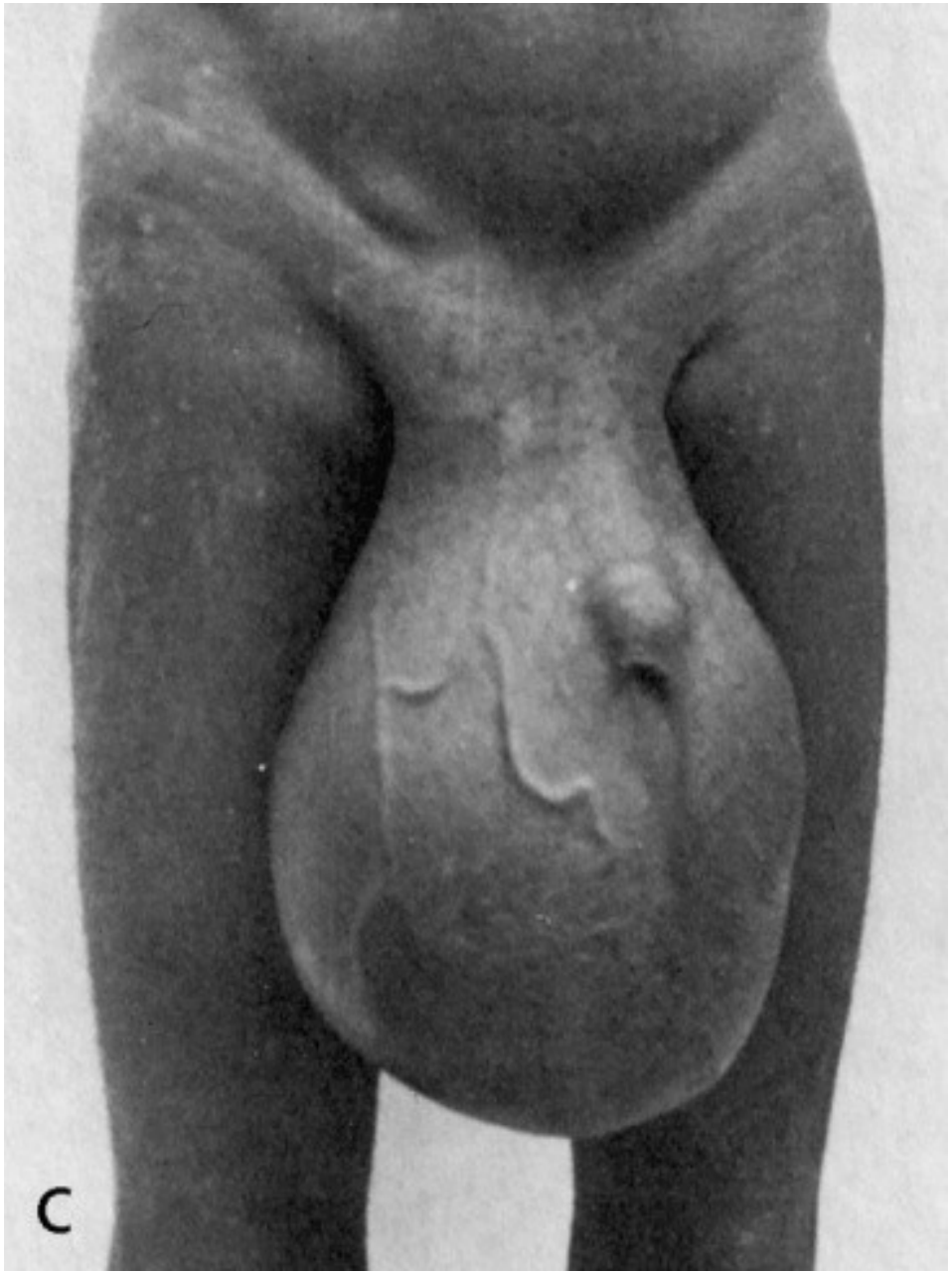
Patients may be asymptomatic or present with fever or scrotal swelling.

Secondary bacterial infections of the skin and local lymph nodes are common in these patients

Bacterial or fungal infections (most commonly streptococci) lead to recurrent lymphangitis, erysipelas, chronic ulcers or persistent fungal crusting, aggravating the clinical conditions

Chyluria develops before elephantiasis in young adult patients.

Chyluria results from obstruction of the retroperitoneal lymphatic channels Leading to dilatation and rupture in the urinary collecting system.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INVESTIGATIONS

Complete blood cell count (CBC)
Patients with patent filarial infection commonly have marked eosinophilia

Serum immunoglobulins: *Elevated serum levels of immunoglobulin E (Ig E) and immunoglobulin G4 (IgG4) are seen with micro filarial infection*

Enzyme-linked immunoassay (ELISA) : *Og4C3 monoclonal antibody-based ELISA provides a quantitative measure of circulating filarial antigen (CFA)*

➢ *Hydrocele fluid examination :*

- ➢ *CFA may be detected in hydrocele fluid and microfilariae may*
- ➢ *be found on cytology.*

➢ ***Urine examination*** :

Chyluria may be detected macroscopically and microfilariae may be detected via microscopic examination of voided urine.

Proteinuria and haematuria may also be seen with micro filarial infection with renal involvement

- **Peripheral blood examination :**

- *Microfilariae may be detected via microscopic examination of peripheral blood.*

- ***Ultrasonography of scrotum:***

- *Lymphatic obstruction can be demonstrated on ultrasonography.*

MANAGEMENT

1.CONSERVATIVE MANAGEMENT

Foot care and skin care are essential in patients with lymphedema

. Patients should be provides encouraged to use antiseptic soap to clean their skin daily
. Early infections should be treated vigorously.

DRUGS

Diethylcarbamazine (DEC) : *DEC (6mg/kg)*

Is effective against both microfilariae and adult worms and is considered the drug of choice

. It clears the blood of microfilariae, reduces the opportunity for mosquito-borne transmission of the parasite and reverses filarial-associated haematuria and proteinuria.

DEC does not reverse existing lymphatic damage and does not change the course of pathology in patients with established disease.

Patients should be tested every 6-12 months for the presence of the parasite and patients whose test results are positive should be re-treated.

- ***Ivermectin*** *: Ivermectin is a newer antiparasitic drug that causes fewer adverse effects*

- *It has proven to be an effective microfilaricide after a single oral dose of 20-25 mcg/kg of body weight.*

- *Because of its low cost, single oral dose and few adverse effects, it is becoming the drug of choice for early filarial infection*

- *. However, ivermectin does not affect adult filarial worms*

- ***Albendazole*** *Albendazole (400mg) is added :to DEC for better outcome.*

. *SURGICAL MANAGEMENT*

Scrotal filariasis is surgically treated if there hydrocele is present and conservative management is unresponsive

The ideal procedure is to excise the hydrocoele completely with an intact sac.