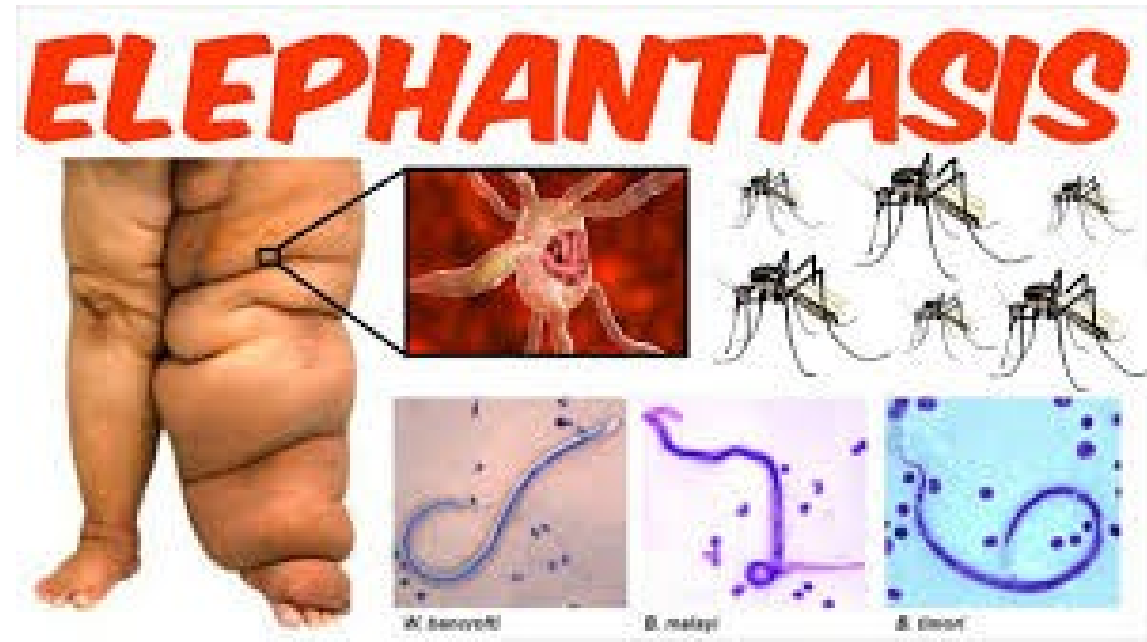


FILARIASIS



- Filariasis belong to helminthiasis
- It is a parasitic disease caused by infection with a round worm of Filarioidea type
- Vector is blood feeding black flies/mosquitoes
- Eight known filarial nematodes use human as their definitive host

EPIDEMIOLOGY

- 120 million in 80 countries
- One billion at risk
- 90 percent are caused by *Wucheraria bancrofti*
- Remainder *Brugia Malayi*

PARASITES

- White slender round worms
- There are three types
 - a. wuchuraria bancrofti
 - b. brugia malayi
 - c. brugia timori
- live for 5-7 years /produce millions of offspring

- 90 percent of cases are caused by *Wucheraria bancrofti*
- Remainder mostly by *Brugia malayi*
- For *W bancrofti* humans are the exclusive host
- Certain strains of *malayi* can also infect animals like monkeys

LARVAE

- A microfilaria is about 240-300 micrometer long and 7.5 -10 micrometer thick
- It is sheathed and has nocturnal periodicity
- It has a curved body and a tail that is tapered to the point



VECTORS

- Mosquitoes are the vector/ intermediate host /carrier
- AFRICA : Anopheles species
- AMERICA : Culex species
- Pacific /Asia: Mansonia and Aedes species



Transmission of Filariasis



**Culex, Aedes
or Anopheles
mosquitoes
transmit
filariasis**

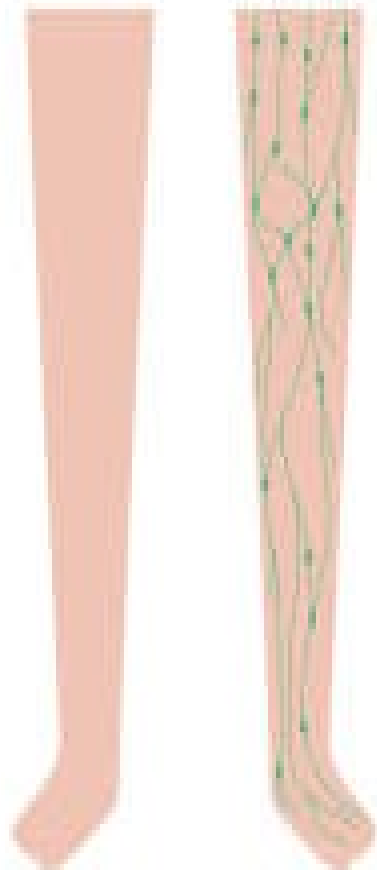
Life cycle

- Infected larvae are transmitted to host by infected mosquitoes while taking a blood meal.
- Larvae are taken to lymphatic vessels/ lymph nodes
- They develop into micro filariae producing adult worms
- The adults dwell into lymphatic vessels /lymph nodes for several years

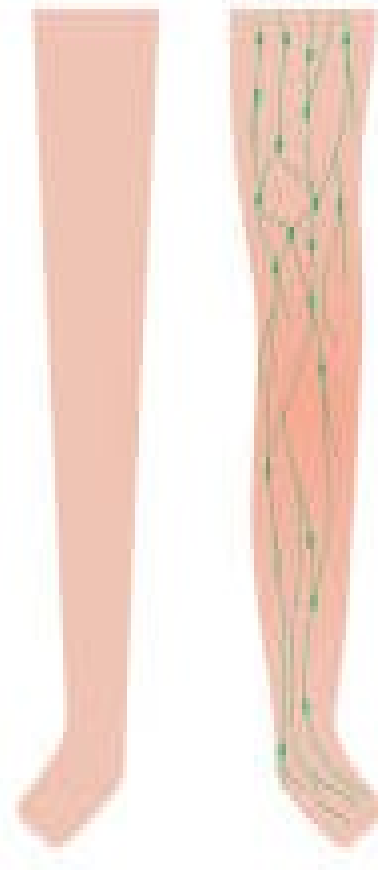
MECHANISM

- They block the lymphatic system
- Leads to tissue edema
- Clinical features are due to lymphatic dysfunction
- The presence of living worms/dead worms/lymph thrombi
- Inflammatory/immune reactions to worms and worm products

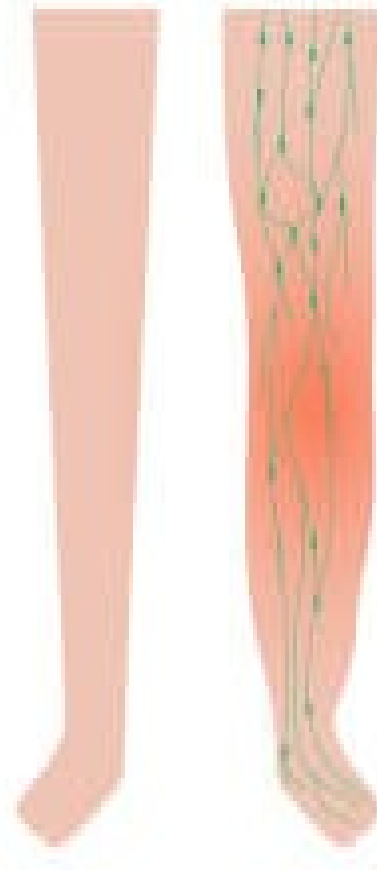
LYMPHEDEMA



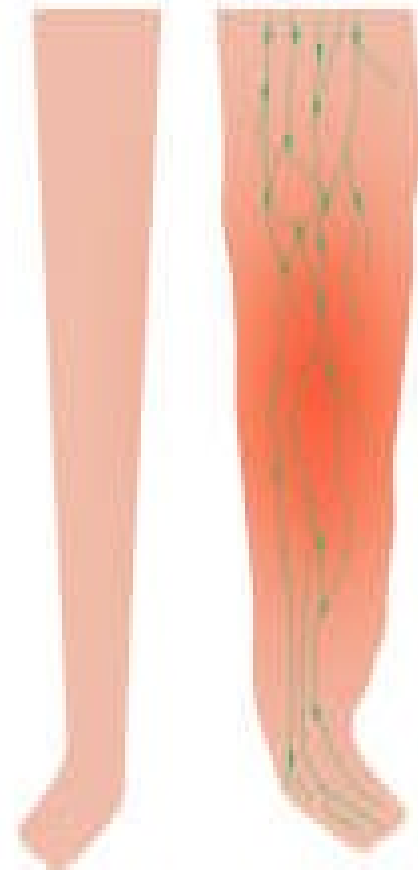
Stage 1



Stage 2



Stage 3



Stage 4

ELEPHANTIASIS INFOGRAPHICS

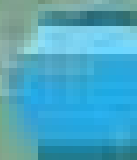


DEFINITION
Elephantiasis is a condition that causes the limbs and other parts of the body to become extremely enlarged and thickened.



PREVENTION AND CONTROL

HYGIENE
Washing hands with soap and water regularly, especially after using the toilet and before eating.



SOURCE

Parasite
Elephantiasis is caused by a parasite called the filarial worm, which is transmitted to humans by a mosquito.



SYMPTOMS

Swelling
The most common symptom of elephantiasis is the swelling of the limbs, which can be painful and make it difficult to move.



LONG TERM EFFECTS

Disability
Elephantiasis can lead to long-term disability, as the swelling can make it difficult to walk and perform daily activities.

IMPACT OF FILARIASIS

- The disease range from lymphedema and filariasis
- Men suffer from scrotal edema
- Filariasis is the leading cause of permanent disability world wide
- Communities reject men and women disabled by the disease
- Disabled people are unable to work
- They and their families suffer financial crisis

DISEASE MANIFESTATION

- Most of the cases are asymptomatic
- A small percentage develop lymphedema
- Mostly lower extremities are affected
- Arms, breast, genitalia specially in men
- Symptoms are developed years after infection.



Fig. 21.—Elephantiasis of the scrotum; left leg slightly affected. (From a photograph by Dr. Farmer, Saigon.)

Scrotum Filariasis



ELEPHANTIASIS

- What is elephantiasis characterized by???
thickening and hardening of skin
 1. gross swelling of the body due to lymphedema
 2. specially lower limbs are affected
 3. eosinophilia, heart failure and breathing difficulties
 4. Masses of worms in skin tissues





DISEASE

Infection

Filarial parasites spread by mosquitoes



Disease

Impairs function of lymphatic vessels

Normal vessels

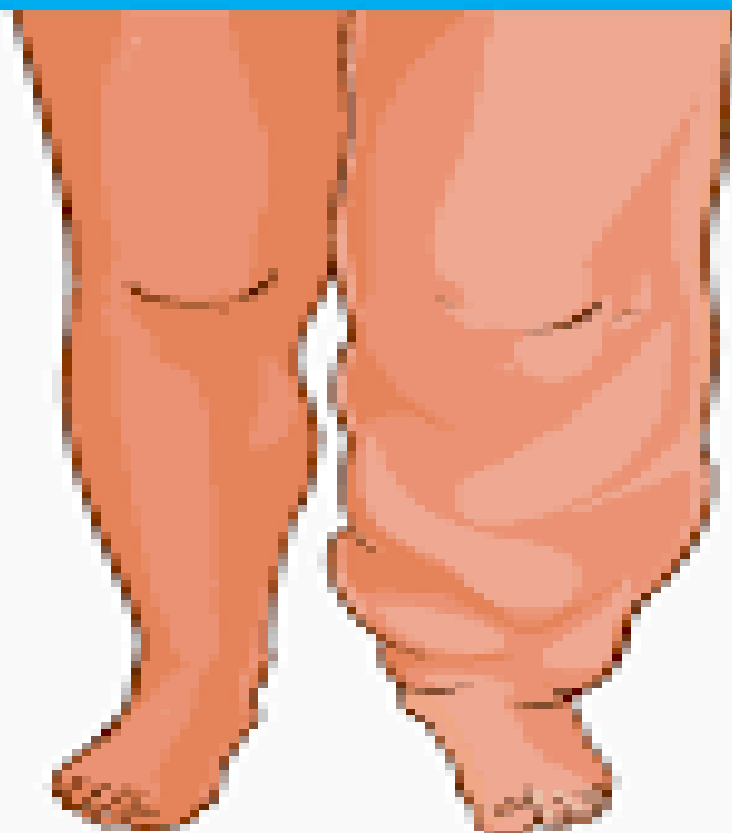
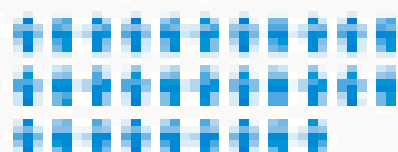


Dilated vessels



856 million people

AT RISK



ELIMINATION



Large-scale treatment of all at-risk populations can stop spread of infection



Vector control can supplement impact of large-scale treatment

Morbidity management & disability prevention



to alleviate suffering due to disease

- **6.7 billion** treatments delivered (2000-2016)
- **499 million** people no longer require treatment
- Prevented or cured more than **97 million cases**
- **US\$ 100 billion** averted lifetime economic loss

Lymphatic Filariasis eliminated as a public health problem in 10 countries

TROPICAL PULMONARY EOSINOPHILIA

- a syndrome in some advanced cases
- Paroxysmal cough /wheeze
- Low grade fever/weight loss
- Prominent eosinophilia
- Responds well to treatment but can progress to pulmonary damage

diagnosis

- the parasite has strict nocturnal periodicity
- They appear in blood in hours around mid night
- Blood tests to detect them
- Scans u/s to detect moving worms



Brugia Rapid Test
is recommended
for use in the
GLOBAL PROGRAMME
to Eliminate
Lymphatic Filariasis
(GPELF)

TREATMENT

- Treatment at community level in endemic areas
- Ivermectin/albendazole/ doxycycline
- Wash the affected part
- Antibacterial creams to infected parts
- Exercise and physiotherapy



THANK U

