

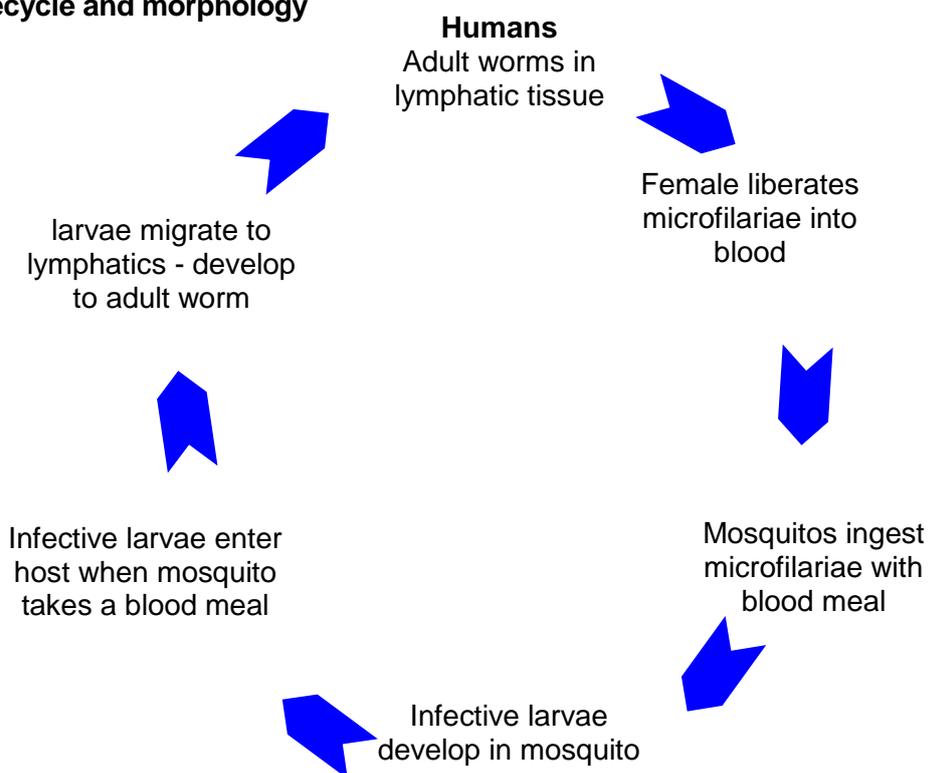
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Brugia malayi

Introduction

Brugia malayi is a nematode causing lymphatic filariasis in South East Asia. There are two strains of *B.malayi*; the nocturnal periodic strain which is widely distributed in Asia, the microfilariae being in their highest concentrations between the hours of 10pm and 2am, and the sub-periodic strain which is found in Malaysia, Indonesia and the Philippines where humans exhibit a microfilaraemia all the time with the highest numbers being detected between noon and 8pm.

Lifecycle and morphology



The adult worm inhabits the lymphatics and the female produces sheathed microfilariae which circulate in the peripheral blood. The mosquito acquires the infection by ingestion of the microfilaria in the blood meal. The microfilaria lose their sheath on arrival in the stomach of the mosquito. The larvae migrate to the thoracic muscles and develop into infective larvae over a period of 6 - 14 days. The larvae then migrate to the mouth parts of the mosquito and enter the skin of the definitive host through the puncture wound when a blood meal is taken.

The infective larvae enter the peripheral lymphatics where they grow to mature male and female worms.

The microfilariae of *Brugia malayi* have 2 terminal nuclei that are distinctly separated from the other nuclei in the tail. The last terminal nucleus is quite small and is at the tip of the tail. The microfilariae are 177 - 230 μ m in length.

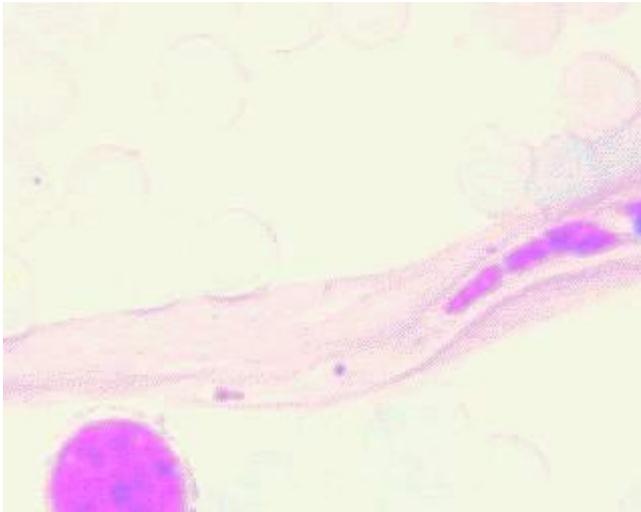
Clinical disease

Many patients are asymptomatic. Patients may present with fever. Lymphangitis and lymphadenitis develop in the lower extremities. An inflammatory reaction occurs in the lymphatic vessels that harbour the adult worms. Oedema develops which may resolve after the first few attacks. However, in long standing disease after several episodes of lymphangitis, thickening and verrucous changes in the skin known as elephantiasis develop. In *B. malayi*, unlike *Wuchereria bancrofti*, genital involvement, hydrocele and chyluria are rare.

Some patients with lymphatic filariasis do not exhibit microfilaraemia. However, they do have high eosinophilia, high IgE level and high anti-filarial antibody titres.

Laboratory diagnosis

When filariasis is suspected, a clinical history helps to determine the most appropriate collection time. Thick and thin blood films can be examined. However this is an insensitive methods due to the low microfilaraemia, and larger volumes of blood need to be examined. See Above



Microfilaria of *Brugia malayi* with 2 distinct nuclei at the tip of the tail