

3. Laporan tahunan Direktorat Daerah P3M /Din Kes Tk. I Prop Jawa Tengah, tahun 1977/1978 s/d 1979/1980.
4. Laporan Penyelidikan Filaria dan Malaria di Kabupaten Dati II Cilacap - oleh : dr. F A Sudjadi (Bagian Parasitologi UGM, Yogyakarta) dan dr. Djakaria (Bagian Parasitologi UI, Jakarta) Desember 1978 - Maret 1979.
5. Kazsner HT. Human Pathology, 8 ed. Philadelphia & Montreal : JB Lippincott Co, pp 216 - 218.
6. Flu PC. Voordrachten over aethiologie, Epidemiologie en spicieole prophylaxis van de infectie en parasitaire ziekten van den mensch Harlem - De Erven F. Bohn N.V.

Immunity in Filariasis

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INTRODUCTION

In Indonesia three parasites of the order Filarioidea are known to affect man : *Wuchereria bancrofti*, *Brugia malayi* and *Brugia timori*.

They are lymph-dwelling and hence develop an uniquely intimate relationship with the immune system of the host. Clinical expressions of filariasis are manifold and include recurrent febrile episodes associated with lymphangitis and lymphadenitis, lymphoedema, elephantiasis, hydrocoele, asymptomatic infections demonstrable by microfilaraemia, and tropical eosinophilia. In addition a significant proportion of any exposed community will never develop signs of disease or parasitism.

Filarial Parasite Antigens

There are three important life cycle stages: the adult worm, the microfilariae produced by female adult worms, and the third stage infective larvae (L3) which develop within the mosquito vector. These worms do not possess secretory glands such as those shown to be a source of potent antigens in the intestine-dwelling nematodes (1). Thus the major degree of host exposure is to the antigens associated with the cuticle or sheath of these parasites. It is towards these antigens that attention has been focused and, although crude antibody-antigen analysis has shown considerable cross reaction between life cycle stages, between the various species of filarial parasites, and between filarial and other nematodes, it now seems probable that parasites and their life cycle stages possess highly specific antigens (2). The importance of these stage-specific antigens in the stimulation of protective immunity or in the immunopathogenesis of filariasis remains to be proven, but protection and pathogenesis might be closely linked to stage-specific reactions.

In addition to antigens associated with the body wall of the parasite, the possibility of soluble antigens cannot be ruled out. These could be actively secreted, or metabolic and excretory products, and could explain the observations of circulating immune complexes in filariasis (3). In some diseases secretory products protect the parasite by "diverting" the host's immune response away from the parasite itself. This concept is certainly worthy of examination as a mechanism of survival of the filarial parasites.

Animal Models

Research into the immunobiology of human filariasis is limited by practical and ethical considerations. Considerable effort has therefore been expended in the development and examination of animal models of filariasis. The usefulness of many of these animal models in immunological research is sometimes questionable. In many cases no clinical signs of infection develop, microfilaraemia being used as the sole index of successful infection. Obviously it is difficult to transpose results obtained in an unnatural host/parasite relationship to

Pengobatan *Brugia timori* dengan Pemberian DEC Takaran Rendah oleh Penduduk kepada Penduduk.

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Ringkasan

Pemberantasan *Brugia timori* telah dilakukan sejak tahun 1977 di tiga desa di Kecamatan Reok, Kabupaten Manggarai, di Flores Barat, Propinsi NTT. Sebelum pemberantasan dimulai, diadakan survey pendahuluan dengan melakukan sensus penduduk dan mencatat dari setiap penduduk yang hadir, nama, umur, jenis kelamin dan hubungan keluarganya. Semua penduduk diperiksa secara klinis dan semua gejala dan tanda-tanda filariasis dicatat. Darah malam untuk filariasis diambil dari ujung jari sebanyak 20 pl antara jam 8.00 dan 12.00 malam dan pada waktu yang sama diambil pula darah vena sebanyak 1 ml sebelum pengobatan dan 3 ml setelah pemberian obat. Darah vena disaring dengan Nuclepore yang mempunyai lubang saring 5 u. Semua contoh darah dipulas dengan Giemsa dengan cara yang telah diuraikan oleh Partono dan Idris (1977) dan jenis dan jumlah mikrofilaria dihitung. Diethylcarbazine (DEC) diberikan dengan takaran rendah sebanyak 50 mg untuk anak sama atau lebih dari 10 tahun dan 25 mg untuk anak di bawah umur 10 tahun, diberikan 1 x seminggu selama 1½ tahun. Pemberian obat dilakukan oleh guru sekolah atau pemuka desa di masing-masing desa dan jumlah pemberian obat dan reaksi samping obat dicatat secara terperinci. Setiap tahun semua penduduk diperiksa ulang secara klinis maupun parasitologis dengan cara yang sama. Hasil pemberantasan filariasis atas dasar "oleh penduduk kepada penduduk" ini sangat memuaskan. Setelah tiga tahun hanya tinggal tiga orang pengandung mikrofilaria di tiga desa tersebut dan jumlah mikrofilarianya tinggal beberapa mikrofilaria dalam 3 ml darah malam.

Gejala-gejala klinik filariasis akut maupun menahun berkurang secara menyakinkan. Efek samping DEC dengan takaran rendah ini dapat dikatakan tidak ada.