CHARACTERIZATION OF FILARIAL ANTIGENS

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by

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ABSTRACT

Studies on bancroftian filariasis, which is common in Sri Lanka, has been hindered, due to the non-availability of the parasite material. In the present study, attempts were made to characterize and use carbohydrate heterologous antigens, in the serodiagnosis of bancroftian filariasis. Physico-chemical studies on 10% trichloroacetic acid soluble antigens of Seteria digitata (SDTCA) were carried out. The usefulness of SDTCA in the serological diagnosis of Wuchereria bancrofti infections was investigated by ELISA. Immunoreactive components were detected in the urine of filarial patients by DOT ELISA with rabbit antisera to SDTCA. False positve reactions due to cross reaction with immunoglobulin excreted in urine were observed. Antigenic cross reactivity between 10% trichloroacetic acid soluble antigen of adult S.digitata (SDTCA) and components present in human serum and urine was investigated by ELISA and polyethylene glycol precipitation immunoradiometry (PEGIRMA).

The antibody response to SDTCA in W.bancrofti infection was predominantly IgM. Unfractionated SDTCA was not suitable for immunodiagnosis of bancroftian filariasis by antibody determination. However, evidence was presented in favour of the presence of filarial specfic epitopes in SDTCA.

Evidence supporting antigenic cross-reactivity between trichloroacetic acid soluble antigens of S.digitata and human immunoglobulin carbohydrates was obtained. Rabbit antisera to human immunoglobulin carbohydrates, 10% trichloroacetic acid soluble components in normal human serum and adult S.digitata showed the same degree of reactivity with radiolabelled human immunoglobulins.