IMMUNO-EPIDEMIOLOGY OF BANCROFTIAN FILARIASIS: A 14-YEAR FOLLOW-UP STUDY IN ODISHA, INDIA

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Abstract. Forty asymptomatic, circulating filarial antigen negative (CFA⁻) and ten asymptomatic, circulating filarial antigen positive (CFA⁺) individuals were followed up longitudinally over a period of 14 years at intervals of 7 years in order to investigate the immunological, parasitological and clinical changes that took place in an endemic area due to natural process. The clinical status, microfilaremia, circulating filarial antigenemia and immunological responses to filarial antigens (DSSd₁ and Sd₃₀) prepared from cattle filarial parasite Setaria digitata, were examined. The observations showed that 19 individuals had developed either antigenemia or filarial symptoms (acute filarial lymphangitis/hydrocele) from CFA⁻ group. Three individuals had cleared antigenemia and one had developed microfilaremia from CFA⁺ group after 7 years. Increased IgG and IgM and low IgG2 and IgG4 level responses along with high lymphocyte production were observed in CFA-negative individuals. This was in contrast to observations made in CFA⁺ subjects. The results of the present study indicated that the changes taking place in the immunological, clinical and CFA status of individuals residing in filaria endemic regions developed different clinical manifestation with course of time.

Keywords: bancroftian filariasis, circulating filarial antigen, endemic normal, India