

An analysis of haematological parameters in patients and individual residents of a Plasmodium falciparum malaria holoendemic area of western Kenya.

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Abstract

Many clinical symptoms of malaria are associated with alterations in certain haematological parameters during acute and subclinical infections. Total leucocyte and erythrocyte counts, haemoglobin concentration, haematocrit and other minor indices, were investigated in five cohort groups of individuals resident in a malaria hyperendemic area of western Kenya. The groups included age- and sex-matched adults with acute Plasmodium falciparum malaria, aparasitaemic adults, children with acute malaria, aparasitaemic children and asymptomatic-parasitaemic school children. The study aimed at defining what constitutes immunity to malaria which may be important in the critical evaluation of malaria vaccine antigens. Anaemia was more severe in adults and children with acute malaria than in their age- and sex-matched aparasitaemic and asymptomatic-aparasitaemic school children. Lymphocyte counts were significantly higher in asymptomatic-aparasitaemic school children than in aparasitaemic adults, suggesting a possible functional role for lymphocytes in the anti-disease immunity in the former group.