

**ANTI-CS ANTIBODIES AGAINST P. VIVAX AND P. FALCIPARUM  
REFLECT PREVAILING INOCULATION RATES AND IS CONSISTENT  
WITH THE ABSENCE OF A CUMULATIVE MEMORY RESPONSE**

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Anti-sporozoite antibodies were studied in the sera of a malaria endemic population in Kataragama, Sri Lanka using the peptides NANP(40) and DDARD of P.falciparum and P.vivax respectively, in and ELISA<sup>1</sup>. Although the population had a life-long exposure to P.vivax, they had not been exposed to P.falciparum until a recent epidemic which occurred in 1986/878. Sera from cohorts of 107 and 149 individuals taken at 4 mass blood surveys carried out at 6 monthly intervals from 1986 to 1988 were examined for anti-peptide antibodies to P.falciparum and P.vivax respectively. The prevalence of anti-peptide antibodies against P.falciparum and P.vivax at the 4 MBSs ranged from 10.1% to 19.2% and 10% to 18.9% respectively. The prevalence of anti-P.falciparum antibodies increased sharply in this region in keeping with the sudden appearance and spread of infections caused by this species indicating that these antibodies reflect prevailing intensities of transmission. However, a poor correlation was obtained between sero conversion and malaria infections in individuals; there was no significant difference between the proportion who sero-converted among those who developed and did not develop a malaria infection due to either species during the period between any two surveys. The age related anti-P.falciparum antibody prevalence was not much different to that of P.vivax despite the fact that the population had had no previous exposure to P.falciparum. Further, the proportion of individuals in whom these antibodies persisted between any two surveys in different age groups corresponded to the relative degree of exposure to malaria of each age group. These indicate that this antibody response reflects prevailing inoculation rates in a population, but that it is not cumulative in response to repeated exposure.