TRANSMISSION BLOCKING IMMUNITY TO HUMAN *PLASMODIUM VIVAX* MALARIA IN AN ENDEMIC POPULATION IN KATARAGAMA, SRI LANKA.

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Serum effects on gametocyte infectivity i.e, transmission blocking/enhancing immunity were measured in the sera of 196 acute, endemic *P.vivax* malaria patients who were residents of Kataragama, southern Sri Lanka. Direct mosquito feedings were performed on 170 of these patients. Sera of 48% of patients suppressed gametocyte infectivity significantly (by more than 75%) and infectivity enhancing effects were observed in 12%. Transmission immunity did not increase with age of patients, rather, immunity tended to be higher in younger patients. Data suggests that immunity levels are boosted by reinfections only if they occur within a period of 4 months from the previous infection, i.e., immune memory for boosting does not last beyond 4 months. Enhancing effects in the patients' sera correlated with the absence of gametocytes at the time of investigation suggesting that enhancement occurs early during the course of a blood infection, and blocking later, when serum antibodies reach higher levels. The blocking and enhancing effects of a serum appears to depend not only on the antibody concentration in serum, but also on the intrinsic infectivity of the parasite isolate against which it is tested: thus, infectivity enhancing effects were potentiated by low intrinsic infectivities of the parasite isolate. Direct infectivity of patients to mosquitoes correlated with transmission immunity indicating that transmission immunity is an influential factor determining infectivity of malaria patients.