IMMUNE RESPONSE TO GAMETE ANTIGENS IN PRIMARY INFECTIONS OF P.FALCIPARUM IN SRI LANKA

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P.vivax malaria is endemic in many parts of Sri Lanka; its transmission is associated with induction of anti-gamete antibodies which modulate the infectivity of the parasites to mosquitoes. Since 1987 there has been a resurgence of P.falciparum malaria in the island. Because the majority of individuals have not previously experienced infections with this parasite species, this outbreak has provided the opportunity to study the induction of anti-gamete and transmission modulating immunity in primary infections of P.falciparum. We collected sera from individuals following P.falciparum infections and analysed them for the presence of gamete specific antibodies and for their effects in modulating infectivity to mosquitoes. Results indicated that most individuals who developed P.falciparum infections had antibodies against sexual stage specific antigens and that relatively few recognized epitopes on two known targets of transmission blocking antibodies, namely the 230 and 48/45 kDa gamete surface antigens. The results also indicated cross reactivity of sera P.vivax patients with P.falciparum gamete surface antigens; thus suggesting that the target antigens/epitopes of transmission blocking immunity of these two species may be structurally similar. The association of low antibody levels with transmission enhancing effects and sudden rise and fall of transmission blocking immunity in P.falciparum malaria was also been observed in this study.