POLYMORPHISM IN TARGET ANTIGENS OF *P.VIVAX* GAMETES INVOLVED IN TRANSMISSION BLOCKING IMMUNITY

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We have previously demonstrated that polyclonal and monoclonal antibodies (MAbs) directed against female gametes of *P.vivax* can completely suppress the infectivity of parasite isolates to the mosquitoe vector[1,2,3]. Using these monoclonal antibodies we have characterised several target antigens of transmission blocking immunity of *P.vivax*. Polymorphism of antigens of the asexual erythrocytic stages of *P.vivax*[4], and of gamete antigens of *P.falciparum*[5] have been previously demonstrated. In the present study, we investigated antigenic polymorphism in gametes of *P.vivax* based on the reactivity of 4 transmission blocking monoclonal antibodies with several different parasite isolates.

Using three techniques, the Indirect Immunofluorescent Test (IFT) with live unfixed female gametes in suspension, Western blots and membrane feeding experiments (by which it is possible to assess infectivity suppressive effects), at least 13 different parasite isolates from patients in Sri Lanka were screened with 4 monoclonal antibodies. By the IFT, the MAbs reacted with some but not all parasite isolates, indicating polymorphism of the antigens with which these MAb react. Western blots performed with gamete extracts showed not only that a given MAb failed to react with all isolates but also that the molecular weights of the antigens detected by a MAb varied in different isolates, indicating size polymorphism in these target antigens. These findings were confirmed in membrane feeding experiments in which a given MAb did not block transmission of all parasite isolates to mosquitoes. The reactivity of a MAb with a given isolate, as assessed by all three techniques corresponded in most but not all experiments.

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