ACQUIRED IMMUNOLOGICAL NON-RESPONSIVENESS TO PLASMODIUM VIVAX ANTIGENS IS REVERSED BY REMOVAL OF CD8+T CELLS FROM PERIPHERAL BLOOD MONONUCLEAR CELLS.

Renu Goonewardena, Giuseppe Del Giudice*,
Priyantha Gamage, P.H. David**,
Richard Carter*** and Kamini Mendis
Dept. of Parasitology, Faculty of Medicine, Colombo,
*Immunology Research & Training Centre, Switzerland,
**Institute Pasteur, Paris,
***University of Edinburgh, U.K.

We have previously reported the T cell proliferative responses to P.vivax antigens of individuals convalescing from an acute P.vivax infection was lowered by prolonged and continuous exposure to the disease. (1).

We have subsequently examined the role of CD4+ and CD8+ T cells in mediating these responses in responder and non-responder individuals from the endemic region, Depletion of CD8+, but not Cd4+, cells from PBMCs of non-responders (by panning with CD8+ or CD4+ specific antibodies) led to a high significant increase in responses to GAM-1 (n=17) and Pv200 (n=21) ($P < 0.001$). Depletion of CD8+ cells had no significant effect on the responses of those individuals with naturally high responses to either antigen GAM (n=12) or PV200 (n=8). Removal CD4+ cells on the other hand did not affect already low responses to these 2 antigens in non-responders, but resulted in a significant lowering of the responsiveness of responders ($P<0.001$). Responses of the latter group were also abolished by the addition of anti-human DR monoclonal antibody (n=5). Our results suggest that in endemic malaria, CD8+ cells may play a role in mediating reduced immune responsiveness to specific malarial antigens.

Reference: Goonewardene et al (1990).
Eur. J. Immunol. 20: 1387-1391.