STUDIES ON CLINICAL OR ANTI-DISEASE IMMUNITY TO PLASMODIUM VIVAX MALARIA

Nadira Karunaweera, Lakshman Perera,
G.M.G. Kapila Nanda, C.P. Gamage,
N.V. Kularatne, G.E. Grau*,
R.Carter** and Kamini Mendis
Dept. of Parasitology, Faculty of Medicine, Colombo,
*Immunology Research & Training Centre, Switzerland,
**University of Edinburgh, U.K.

The extent of clinical disease in 48 Plasmodium vivax malaria patients who were exposed to endemic malaria was significantly less (as assessed by the degree of clinical symptoms and signs) than in 44 patients who were unexposed to endemic malaria. Among 12 routine haematological investigations carried out on these patients the erythrocyte sedimentation rate (ESR) and the serum bilirubin levels were significantly lower in clinically immune patients than in non-immunes. We have previously described evidence for clinical disease in P.vivax malaria being associated with the presence in serum, of elevated levels of the cytokine TNF and as yet unidentified complementary parasite killing factor(s) (1). Serum TNF levels during clinical paroxysms in clinically non-immune patients as assayed in an immunoradiometric assay ranged from 180-3500 pg/ml, being as high as levels seen in P.falciparum infections. However, hypoglycaemia, which can complicate severe P.falciparum infections was not observed in any of the P.vivax patients. These comparative descriptions may give insight to the pathogenesis of both P.vivax P.falciparum malaria.

References: Karunaweera et al (1991). Clinicla Immunity to human malaria is associated with reduced induction of cytokines and complementary parasite killing factors.
Submitted to J.Exp.Med.