A-04: Production of cytokines by peripheral blood monounclear cells during uncomplicated and severe and complicated malaria infections

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The changes in the mononuclear cell profile, and cytokines produced by different T-cell types in peripheral blood were studied in uncomplicated and severe and complicated malaria patients from Sri Lanka. Of the cell types studied, the response of the gamma-delta T-cells was greater during a malarial infection and the increase is dependent on the severity of the infection. The response in the increase of monocytes is significant only when the infection is severe. Alpha-beta T-cells do not appear to be influenced during a malarial infection whatever the severity of the disease.

Plasma IL-10 levels were increased during a malarial infection but not plasma IFN-gamma levels. In addition, the increase in the number of cells producing IL-10 and IFN-gamma is significant in severe disease as compared to normal healthy controls. In the uncomplicated group, the largest percentage increase, as compared to the non-malarial group, was seen in gamma-delta T-cells. The increases in the number of cells producing IFN-gamma in the severe and

complicated, as compared to the uncomplicated group, was significant only for gamma-delta T-cells ($p=0.006$).

These analyses indicate that gamma-delta T-cells play an important role during a malarial infection. There is an increase in both the number and proportion of gamma-delta T-cells producing IL-10.