Effect of *Plasmodium falciparum* on Liver Function Parameters of Children in Akoko Area of Ondo State, Nigeria

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Abstract

Background: Malaria remains one of the most important causes of morbidity and mortality in endemic areas, primarily affecting children under five years of age. The highest death burden occurs in young children who have not yet developed protective immune mechanisms against the parasite. Objective: This study was undertaken to investigate the effect of Plasmodium falciparum infection on liver function in malaria patients in Ikare Akoko, Ondo State Nigeria. Methods: Blood samples taken from 101 patients (children between the ages of 6 months – 5 years) at the State Specialist Hospital Ikare Akoko Ondo State Nigeria between August to October, 2012 were examined. After screening, the patients were grouped into two. Group 1, the test group (those who tested positive to falciparum malaria) and a total of 101 children were selected into this group while 101 children who tested negative to malaria were selected into group 2 (control group). Changes in the activities of serum enzymes were determined in both groups using normal range values as baseline. Results: In falciparum malaria patients, the serum alanine aminotransferase (ALT), aspartate aminotransferase (AST) and alkaline phosphatase (ALP) activities respectively were 63.10±2.76, 138.46±5.04, 70.50±4.33 and those of the non infected patients respectively were 62.39±2.96, 131.46±4.38 and 65.57 ±2.39. This indicates the serum levels of ALT, AST and ALP in infected patients were significantly (P = 0.05) elevated relative to their non-infected counterparts, an indication of defective liver function. Conclusion: This study suggests that malaria parasites could be responsible for derangement of the liver functions in patients and could therefore contribute to organ damage in affected individuals if not treated.

Keywords: Plasmodium falciparum, Children, Serum enzymes, Liver function.