Abstract

Introduction. Malaria, anemia and intestinal parasitism can co-exist in certain populations of Colombian children. The effects of retinol supplementation and anti-intestinal parasite treatment in children with malaria is unknown. Changes after this treatment of with respect to hemoglobin, retinol, ferritin and C reactive protein levels have not been previously monitored. Objective. The effect of simultaneous intervention with antimalarial, retinol supplementation and anti-intestinal parasites treatment will be monitored by examining levels of hemoglobin, ferritin, retinol and C reactive protein in children with malaria. Materials and methods. A non-blind experimental study was conducted in 93 children with malaria, aged 4-10 years. Each was randomly allocated to one of the following groups: (1) treatment with antimalarial and retinol supplement (Group MA); (2) treatment with antimalarial retinol supplement and anti-parasitic drug (Group MAP); (3) treatment with antimalarial and anti-parasitic drug (Group MP), and (4) treatment only with antimalarials (Group M). The groups were observed for 30 days, with haemoglobin, ferritin, retinol and C reactive protein evaluated on days 0, 8 and 30 after treatment. Results. Mean values for the children at day 0 were as follows: hemoglobin 10.3±1.6 mg/dL, retinol 19.1±6.0 mg/dL, C reactive protein 75±63 mg/L and ferritin 213±203 mg/L. On day 30 after treatment, hemoglobin and plasma retinol concentrations increased in 1.4±1.4 g/dL and 11.5±8.1 mg/dL, whereas the C reactive protein and ferritin concentrations decreased to 66±60 mg/L, and 184±203 mg/L, respectively. No statistically significant differences appeared among the groups. On day 8, significant differences between the groups were observed in hemoglobin concentrations Group MAP was higher when compared to other groups. Conclusion. On day 30, hemoglobin and retinol were high, whereas C reactive protein was low. Simultaneous administration of a retinol supplement and anti-parasite treatment prevented hemoglobin reduction observed on day 8 without changes in other variables.

Keywords
Malaria, vitamin A, anemia, child, Colombia.