

Abstract

Daily urinary iron loss and physical fitness were determined in Kenyan primary school children who had low-medium (16-177 eggs/10 ml adj) or high (200-1,194 eggs/10 ml adj) *S. hematobium* egg counts compared with a matched group of control or uninfected children before and after antischistosomal treatment with metrifonate. The 3 groups did not differ significantly before treatment in age, sex ratio, anthropometry or prevalence of other parasite infections. Before treatment, mean iron loss in the high egg count group (n = 14) was 652 micrograms/24 hr and was significantly higher than losses in the low-medium and control groups (losses = 278, 149 micrograms; n = 19, 12 respectively). Iron loss in infected children was correlated with egg count (r = 0.40) and log of egg count (r = 0.56, P less than 0.0003). After treatment iron loss decreased in the infected groups and post-treatment iron losses did not differ significantly. Physical fitness scores, measured with the Harvard Step Test, showed that the control group (score 81) was significantly more fit than the high egg count group (score 69) before treatment. Fitness scores improved significantly in both infected groups after treatment, and post-treatment fitness scores did not differ significantly between the 3 groups. This study provides evidence that relatively heavy infections of *S. hematobium* can cause urinary iron loss which, if it persists, is great enough to produce iron deficiency anemia and can also reduce physical fitness of children, but that both of these negative effects are reversible with treatment.