study on the immune dechanisms in schistosomiasis

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The present study was designed to investigatethe effect of Schistosoma parasitic infection on thefollowing vital activities in mice and humans groups:I. The phagocytic and the bactericidal activitiesof polymorphonuclear phagocytic cell (PMN's).II. The antibody production by the B lymphocytes,using the plaque assay described by Khalil andAttallah (1979).I) The practical part of this study concerned withthe phagocytic and the bactericidal activitiesof PMN's gave the following results.Human Groups:40 patients were examined in this study, they weredivided into two groups. The 1st group consisted of20 patients in the early stage of infection, and the 2ndgroup consisted of 20 patients in the late stage ofinfection. 30 normal individuals were served as control.First:It was found that the phagocytic activity of PMN'sin both infected groups was greatly lowered than that ofthe healthy control group. However, this decrease wasfound to be nearly the same in the early and late stageof the disease.Second:The bactericidal activity was greatly decreasedin the infected groups than that of the healthy controlgroup. Also it was found that this activity was greatlylowered in the late infected group than that of theearly infected one.Mice Groups:100 mice were examined in this study, they weredivided into two equal groups. The 1st group was servedas control, the 2nd group exposed to~.mansoni infection.It was found that the phagocytic activity of PMN's inthe infected group was greatly decreased than that of thecontrol group.II. The practical part concerned with antibody productionby B lymphocytes gave the following results.Human Groups:30 patients were examined in this study, theywere divided into 2 equal groups. The 1st group was inthe early stage of infection, and the second group wasin the late stage of infection. 20 normal individualswere served as control.It was found that the antibody production byB lymphocytes in both infected groups were less thanin the control group.Mice Groups:150 mice were -examined in this study, they weredivided into three groups:Group I 25 non inoculated mice (these were considered controls to the other groups). Group II 25 mice injected with SRBCs Group III 100 mice infected with Schistosoma mansoni.This group of mice were divided into subgroups, A and B.Group IIIA: consisting of 50 mice, they were testedat different time intervals:1. 10 mice were tested for the plaque forming cellafter 4 days of infection.2. 10 mice were tested for PFC after 7 days of infection.3. 10 mice were tested for PFC after one month of infection.4. 10 mice were tested for PFC after one months ofinfection and injected with 2 X 108 SRBCs days before the plaque assay.5. 10 mice were tested for PFC

after one months and injected with 2 X 108 RBCs 10 days before the plaque assays.Group IIIB: consisting of 50 mice infected with S. mansoni for 9-12 weeks before the plaque assay. They were divided into:1. 15 mice were examined for the plaque assay.2. 20 mice were injected with 2 X 108 SRBCs.5 days before the plaque assay.3. 15 mice were injected with 2X 108 SRBCs 10days before the plaque assay.Mice groups were sacrificed and the number ofspleen lymphocytes producing anti SRBCs were calculated,using the plaque assay describeded by Khalil andAttallah (1979).1. It was found that the antibody production by theB lymphocytes in the 1st non infected group wasgreatly decreased than that in the 2nd non infectedgroup.2. The degree of response of B lymphocytes in theinfected mice group (3rd group) was arrangedin descending order of antibody production asfollows:a) Mice infected for 9-12 weeks and injectedwith sheep RBGs 5days before dissection.b) Mice infected with cercariae and dissectedafter 4 days.c) Mice infected for one month and injectedwith sheep RBGs 5 days before diss~ction.d) Mice infected for 9-12 weeks .e) Mice infected for one month and injected withsheep RBGs 10 days before dissection.f) Mice infected for one month.g) Mice infected and dissected 7 days after infection.h) Mice infected for 9-12 weeks and injected with sheep RBGs 10 days before dissection