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Detection and quantification of pro-inflammatory cytokine in sera and urine of Sudanese patients infected with *Schistosoma haematobium*

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Background: Schistosome-specific acquired immunity capable of reducing levels of infection or re-infection develops slowly. The nature of these protective immune responses suggesting that anti-helminths immune responses fall into a Th1 (pro-inflammatory) and Th2 (anti-inflammatory).

Objective: The aim of this study was the detection and quantification of pro-inflammatory cytokines in both sera and urine of patients with urinary schistosomiasis.

Methodology: One hundred and thirty sera and urine were collected from patients with urinary schistosomiasis in two villages south Elduiem (Sudan). The disease was confirmed by finding *Schistosoma haematobium* eggs in urine using syringe filtration techniques. To rule out *Schistosoma mansoni* and other helminths infection Kato Katz technique for stool examination was used. Sera and urine of seventy subjects who were *Schistosoma haematobium* negative included in the study as controls. Samples were examined for IFN γ and IL-2, cytokines level using ELISA techniques.

Results: The prevalence of *Schistosoma haematobium* infection in the study population showed that the peak of infection was in childhood (3-13 years) followed by a sharp decline in infection intensity. Males infected more than females 62% and 38% respectively. Measurements of parasite specific cytokine responses showed high levels of both cytokine productions before treatment then after treatment. There are significant differences in cytokine production in infected groups and control one. Females produce high levels of IFN γ and IL-2 than males. Aged people produce high levels of both cytokine than young people. There are a positive association between the production of cytokine and intensity of the infection.

Conclusion: The conclusion drawn from the study is that pro-inflammatory cytokines were produced in large amount before treatment with significant difference between males and females.

Biography

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