

Anti and pro-inflammatory cytokine gene expression in patients suffering from cancer bladder associated with chronic schistosomiasis haematobium.

**Australian Journal of Basic and Applied Sciences (AJBAS)**

**Pages: 55-61**

**ISSN: 1991-8178**

**EISSN: 2309-8414**

**<http://www.ajbasweb.com/>**

**Abstract:**

This work was a case-control study applied on 24 patients with chronic complicated Schistosomiasis haematobium with bladder carcinoma, versus 10 subjects with history of S. haematobium without complications as a control group. Gene expression of 2 anti-inflammatory cytokines (IL-10 and TGF- $\beta$ ) and 2 pro-inflammatory cytokines (IFN- $\gamma$  and TNF- $\alpha$ ) was done using quantitative real time PCR. The results revealed marked increase in the level of (IL10 and TGF  $\beta$ ), in contrast to marked decrease in the level of (IFN  $\gamma$  and TNF  $\alpha$ ). Therefore, cases in the current work were reported to be poorly controlled by unbalanced Th1/Th2 in which Th2 was dominated. However, possibly failed to eliminate the damaging impact of Schistosoma infection in our cases, instead counteract Th1 cytokines (significant negative correlation between Th2 anti-inflammatory cytokine IL-10 & the chief Th1 pro-inflammatory cytokine IFN  $\gamma$  was reported). This possibly led to loss of Th1 control in defending the host against both parasite and carcinogenic changes. This study suggested a vital regulatory role for IL-10 in such serious infection which certainly needs further elucidation as regard its prognostic and therapeutic potential.

**Key Words:** Schistosomiasis haematobium- inflammatory cytokines- gene expression- quantitative PCR.