Abstract:

The immunomodulatory effect of antibiotics could influence the degree of systemic and local responses to infection, so investigation of their intrinsic influence on the host's inflammatory response appears to be essential. Fluoroquinolones are known to exert modulatory activity on immunological responses to microbial infection. However, the mechanism of this immunomodulation has not been well elucidated. The aim of this work is to assess the immunomodulatory effect of levofloxacin, through examining its effect on the concentrations of tumor necrosis factor-α (TNF-α) and Interleukin-10 (IL-10) in serum of pneumonic patients. After following local research ethics committee approval and informed consent, this study included 40 patients with different types of pneumonia, admitted to the Department of Chest Diseases, Faculty of Medicine, Assiut University Hospitals, Egypt. Also, 10 healthy volunteers served as randomized controls. Both patients and controls received levofloxacin (750 mg once a day for 10 days). Serum levels of TNF-α and IL-10 were measured in patients and controls before and after levofloxacin administration (750 mg once a day for 10 days) using human TNF-α and IL-10 ELISA kits, respectively. Levofloxacin caused a statistically significant decrease in the mean level of TNF-α in both patients (20.82 ± 1.31 pg/ml) (P

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