



Evaluation of prepared specific *Pseudomonas aeruginosa* transfer factor against experimental challenge

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Abstract

This study was designed to evaluate the protective efficacy of prepared specific *P. aeruginosa* transfer factor (TF). The first experiment was performed to prepare TF into two laboratory experimental groups. Each group contained six rats. The first group was immunized subcutaneously (S.C) with a sub lethal dose (5×10^4 CFU/

ml) of *P. aeruginosa* twice at two-week intervals. This group considered as a donor of specific *P. aeruginosa* transfer factor (TFt). The second group was injected S.C with phosphate buffer saline (PBS) pH 7.2 and considered as a control and source of TFn. The cell-mediated immunity (CMI) of the immunized and control rats was assessed by delayed type hypersensitivity-skin test (DTH-skin test). Only immunized rats gave positive DTH-skin reaction, in comparison with control rats. The second experiment was including the extraction of transfer factors from the splenocytes of the immunized (TFt) and control (TFn) rats. Thirty rats were divided randomly and equally into three groups, to evaluate the efficiency of the prepared TF against experimental challenge. The first group was inoculated S.C with 2 ml of TFt twice one-week interval, similarly the second group was inoculated S.C with two doses of TFn while, the third group inoculated with PBS pH 7.2. Later on, all the recipient rats were examined by DTH-skin test. Only the TFt recipient rats gave positive DTH-skin test reactivity that indicate the passive transfer of CMI. Seven days later, all the recipients were challenged with one ml containing 2×10^7 CFU of virulent *P. aeruginosa* intraperitoneally. The survival rate of TFt recipient rats was 80 % in compare to 20% and 10% of TFn and PBS recipient rats, respectively. In conclusion, the result of this study revealed that specific *P. aeruginosa* transfer factor plays an important role as a biological substance for therapy or supplementary therapy for infections caused by *P. aeruginosa*.

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