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Lymphocyte Subpopulations in Patients With Acute Brucellosis

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Abstract: The aim of this work was to evaluate changes in lymphocyte subpopulations, especially helper and cytotoxic T cells, in acute brucellosis patients undergoing treatment. Forty-three acute brucellosis patients were included in the study. Twenty healthy subjects served as controls. Total lymphocytes and the $CD3^+$, $CD4^+$, $CD8^+$, $CD19^+$ and CD $(16+56)^+$ subpopulations were counted by two-color flow cytometric analysis. The CD4+ counts in patients before and after treatment were not statistically different ($p = 0.7$), but healthy subjects had significantly more of these cells ($p = 0.001$ and $p = 0.001$ compared to pre- and post-treatment patients, respectively). The $CD8^+$ counts in acute brucellosis patients decreased after treatment ($p = 0.004$), but remained higher in both pre- and post-treatment samples than in healthy subjects ($p = 0.001$ and $p = 0.01$ respectively). Neither the total leukocyte counts nor the numbers of cells in any subpopulation correlated with blood culture results (positive or negative). No statistically significant differences in the patients' $CD4^+$ T cell counts were observed between the pre-and post-treatment periods, and the count was higher in healthy subjects. Counts of $CD8^+$ T cells increased in acute brucellosis patients, and although they decreased after treatment they remained higher than in the controls. In view of this increase, it was concluded that $CD8^+$ T cells could be the major component in immunity against brucellosis.

Key Words: lymphocyte subpopulations, brucellosis, treatment

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