THE TITERS OF IGG SUBCLASSES IN DIFFERENT STAGES OF BRUCELLOSIS

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Introduction: Brucellosis is one of the five common bacterial zoonoses in the world. Lipopolysaccharide (LPS) and cell wall proteins are two of the immunogenic components of Brucella. Antibody response in patients with brucellosis consists of IgG\textsubscript{3} for LPS and IgG\textsubscript{1} and IgG\textsubscript{2} for protein antigens of Brucella. In patients with chronic brucellosis, IgG\textsubscript{3} secretion is significantly higher than other isotypes. Since the IgG\textsubscript{3} is representative of chronic form of the disease, we decided to determine the usefulness of this subclass as a factor for differentiation of acute and chronic form of the disease.

Method: Ninety one patients with brucellosis (38 cases with chronic and 53 with acute forms) were selected and their disease confirmed by questionnaire regarding demographic information and clinical status. After blood sampling, Wright and 2ME tests have done. Then titers of total IgG and IgG subclasses were measured by ELISA. Student's t-test for paired data was used to analyze the change within groups.

Results: The subjects consisted of 47 (51.6\%) males and 44 (48.4\%) females with an average age of 25 years. IgG\textsubscript{3} subclass was the highest titer and IgG\textsubscript{2} was the lowest titer among patients in chronic stage. The IgG subclasses showed statistically significant association with the Wright test (p< 0.02) and 2ME (p< 0.0005).

Conclusion: Compared to the other IgG subclasses, the IgG\textsubscript{3} titer is the highest in patients with chronic brucellosis which shows that in these patients, a significant portion of antibody response is against LPS. Based on the result, it can be deduced that IgG\textsubscript{3} titer is a suitable tool to differentiate between chronic and acute state of the disease.

Keywords: Brucellosis, IgG subclass, acute stage, chronic stage.