P-0726

Evaluation of the potential roles of activin-A, activin-B, and follistatin molecules exhibiting immunomodulatory properties in brucellosis

Muhammed Ali Kızmaz[1], Pınar Hız Ellergezen[1], Nesrin Demir[2], Eren Çağan[2], Emin Halis Akalın[4], Haluk Barbaros Oral[4], Ferah Budak[1]

[1]*Department of Immunology, Faculty of Medicine, Bursa Uludağ University, Bursa, Turkey*
[2]*Department of Immunology, Faculty of Medicine, Canakkale Onsekiz Mart University, Canakkale, Turkey*
[3]*Department of Pediatric Infectious Diseases, University of Health Sciences, Bursa Yuksek Ihtisas Training and Research Hospital, Bursa, Turkey*
[4]*Department of Clinical Microbiology and Infection Diseases, Faculty of Medicine, Bursa Uludağ University, Bursa, Turkey*

Brucellosis is a zoonotic disease caused by bacteria called Brucella. The mechanisms underlying the changes seen in the course of brucellosis are not adequately elucidated. It was aimed to reveal the potential roles of activin-A, activin-B, and follistatin molecules in sera taken from patients with acute and chronic brucellosis, healthy controls, and recovered individuals to overcome these deficiencies. Activins are members of the transforming growth factor-1 (TGF-β1) superfamily. Activin-A has been shown to play a role in both pro-inflammatory and anti-inflammatory processes. Follistatin is a protein that inhibits or neutralizes the functions of activins, and in this way, it can regulate the inflammatory process. 40 acute, 36 chronic brucellosis patients, 40 healthy, 8 healed donors were included in our study. In addition, analyzes have been associated with a predisposition to bone joint involvement (osteoarticular). All immunomodulatory molecules were studied by the ELISA method. The values for the activin-A, activin-B, and follistatin molecules in the acute and chronic patient groups were lower than the values in the healthy controls and the recovery group, but statistically significant differences were observed only in the activin-A and activin-B molecules. In our study, we observed that the serum levels of activin-A, activin-B, and follistatin decreased in the chronic and acute patient groups compared to the healthy control and the recovered group. According to this result, it is thought that the expression of these three molecules is suppressed in brucellosis infection, and in case of recovery, the suppression disappears and increases again.

Keywords: Immune response tracing, infectious disease, inflammatory molecules