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Comparative analysis of phagocytic activity of blood neutrophils in sarcoidosis and tuberculosis

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Abstract

Clinical and histopathological similarities between sarcoidosis (SA) and tuberculosis (TB) suggest the participation of Mycobacterium tuberculosis in both diseases. Phagocytosis of mycobacteria is a first step of antimicrobial immune response. Since neutrophils are among the first cells to arrive at the site of mycobacterial infection, we evaluated phagocytic activity of these polynuclear blood cells in 22 patients with SA, 20 TB patients, and 20 healthy volunteers using the PHAGOTEST® kit by flow cytometry. We revealed significantly higher total number of neutrophils in TB than in SA and controls (p=0.0004, p=0.01, respectively), whereas there was no differences between SA and healthy individuals. Phagocytic activity of neutrophils in TB was higher than in SA and controls (p=0.004, p=0.01, respectively), whereas there was no differences between SA and healthy controls. Our results suggest significantly different role of neutrophils in the etiopathogenesis of both diseases. It may be useful for a differentiation of SA from TB.

Biography

Dubaniewicz Anna has been employed at the Medical University in Gdansk, Poland since graduation in 1985. Currently, she is Assistant Professor at the Department of Pneumonology of Medical University of Gdansk and independently she works in the Outpatients Department in Gdynia and Gdansk. Dr. Dubaniewicz received her M.D. degree from the Faculty of Medicine of the Medical University of Gdansk in 1982. In 1988 she obtained specialization in Pulmonology. Before, in 1986 she get specialization in Internal Medicine. In 1993 Dr. A. Dubaniewicz defended doctoral dissertation (Ph.D.) on immunology of tuberculosis at Medical University of Gdansk and in 2008 defended the habilitation on the participation of mycobacterial heat shock proteins in the etiopathogenesis of sarcoidosis. A. Dubaniewicz's scientific achievements were awarded by the Rector of Medical University of Gdańsk (nine times), by the Polish Ministry of Health (twice), and by the European Respiratory Society Infections Assembly. Dubaniewicz research interest include the immunology and immunogenetics of tuberculosis and sarcoidosis, with particular interests in the role of HLA and participation of M. tuberculosis heat shock proteins in the pathogenesis of sarcoidosis. She published about 32 original papers in peer-reviewed journals. Her publications (106 in total) comprise 32 original articles, 18 reviews, 4 casuistic publications and 74 abstracts, 7 chapters in academic textbooks. Cumulative IF of these publications is about 40.