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Title: Phagocytosis by blood monocytes in differentiation between sarcoidosis and tuberculosis

Dr. Anna 23355 Dubaniewicz aduban@gumed.edu.pl MD ¹, Ms. Monika 23356 Wybieralska mwybieralska@o2.pl MD ¹, Mrs. Katarzyna 23357 Rogoza kr0610@o2.pl MD ¹, Mrs. Marlena 25942 Typiak marlena.smigielska@op.pl ¹, Mr. Adam 23359 Sternau aster@gumed.edu.pl MD ³, Prof. Dr Jan M. 29593 Slominski jmslomin@gumed.edu.pl MD ¹ and Prof. Dr Piotr 23358 Trzonkowski ptrzon@gumed.edu.pl MD ².

¹ Department of Pneumology, Medical University of Gdansk, Poland ; ² Department of Clinical Immunology and Transplantology, Medical University of Gdansk, Poland and ³ Department of Thoracic Surgery, Medical University of Gdansk, Poland .

Body: Due to clinical and histopathological similarities between sarcoidosis (SA) and tuberculosis (TB), we try to find some biomarker(s), which allow to a differential diagnosis between these disorders. We recently revealed increased frequencies of receptors for Fc fragment of IgG (FcγR) FcγRI+ and FcγRII+ monocytes in both SA and TB but in contrast to TB, sarcoid monocytes had increased FcγRIII occurrence with receptors for fragment of complement (CR) CR1 and CR4 deficiency. Abnormal expression of FcγR and CR may cause of a disorder of the phagocytosis by monocytes and clearance of immune complexes (CIs) with following immunocomplexemia, which concentration was higher in SA than in TB. Therefore, we have evaluated the percentage of phagocitizing blood monocytes from 22 patients with SA, 20 patients with TB, and 20 healthy volunteers using the PHAGOTEST® kit by flow cytometry. Our study revealed increased percentage of monocytes in SA than in TB and the controls (p=0.003, p=0.002, respectively), but there was no difference between TB and healthy individuals. The percentage of phagocitizing monocytes was increased in SA than in the controls (p=0.03) and it was slightly elevated compared to TB. There was no difference between TB and the controls. In summary, current study revealed increased of phagocytic activity of monocytes in SA than TB and explained previously obtained results regarding higher frequency of FcγR and CR deficiency on sarcoid than on tuberculoid monocytes. The increased phagocytosis of CIs and high antigen load with following persistent antigenemia may explain the presence persistent complexemia in our patients with SA. This study may be useful for differentiation of both diseases.