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Title: Occurrence of hypersensitivity to beryllium among patients with diagnosed sarcoidosis. Initial results

Dr. Lukasz 25190 Kasper kasper@mp.pl MD ¹, Prof. Dr Krzysztof 25191 Sladek mmsladek@cyf-kr.edu.pl ¹, Dr. Jerzy 25192 Soja jerzysoja@op.pl ¹, Dr. Hanna 25193 Plutecka hankaz32@interia.pl ² and Prof. Dr Marek 25194 Sanak mmsanak@cyf-kr.edu.pl ². ¹ Division of Thoracoscopy and Bronchoscopy, Jagiellonian University, Cracow, Poland and ² Division of Molecular Biology and Clinical Genetics, Jagiellonian University, Cracow, Poland .

Body: Introduction: Sarcoidosis is a form of interstitial lung disease of unknown cause. In this disease the formations of granulomas are diagnosed also among individuals with berylliosis – an occupational disease clinically similar to sarcoidosis, but associated with hypersensitivity to beryllium. Aim of study: Our objective is to determine the frequency of hypersensitivity to beryllium in individuals with diagnosed sarcoidosis of lungs and to attempt to work out diagnostic methods of berylliosis. Methodology: Individuals selected for the research were diagnosed with sarcoidosis. All individuals were screened using a modified beryllium lymphocyte proliferation test (BeLPT). The method involved isolating blood lymphocytes, staining them with fluorescent marker (CFSE) and exposing them to beryllium sulfate (of various concentration) or mitogen (positive control). The number of dividing cells (CFSE dilution) was marked after 5 days of incubation with flow cytometry. Individuals suspected of positive proliferation test result and those suspected of the risk for beryllium compounds exposure will be examined by patch tests with beryllium sulfate. Results: 30 individuals with sarcoidosis have been tested. 5 of them (14.3%) exhibited increased lymphocyte proliferation index. Conclusions: The study attempts to present a new diagnostic method of identifying hypersensitivity to beryllium. Presently, neither reliable in vitro tests for berylliosis have been standardised nor routinely carried out. Our method requires validation among patients with berylliosis, testing the method in control group and comparison of BeLPT-CFSE methods with a standard thymidine test.