CONTRIBUTION OF BONE MARROW-DERIVED FIBROCYTES TO SILICOSIS

Introduction Exposure to free silica induces silicosis and its mechanism is less clear. Myofibroblast is regarded as a primary effector cell which is highly synthetic for collagen and lead to extensive fibrosis in lung. However, its origin is still controversial. Fibrocyte is one source of myofibroblast and proved to play a pivotal role in lung fibrogenesis, but whether fibrocyte participates in the process of silicosis is rarely reported. Therefore, the present study was designed to investigate the contribution of fibrocytes in silicosis.

Method The rat model of silicosis was established by single intratracheal instillation of SiO₂ solution (100 mg/0.5 ml/rat). HE and Masson staining were used to evaluate the histopathology and collagen deposition. Flow cytometry and immunofluorescence were performed to detect number of fibrocytes and contribution to myofibroblasts.

Results During experimental silicosis (from week 1, 2, 3, 6, 9, 12), the number of fibrocyte is markedly increased in peripheral blood and lung tissue by using flow cytometry.

Discussion Taken together, these data suggest that fibrocyte is involved in the pathogenesis of silicosis and it may be useful as an indicator for disease activity. Different sources of myofibroblasts play roles in different phases of silicosis.

SILICOSE’S IMPACT ON THE INCIDENCE OF TUBERCULOSIS IN THE GENERAL POPULATION OF MINAS GERAIS: ANALYSIS FROM 2002 TO 2016

Introduction In Brazil, both silicosis and tuberculosis (TB) have high prevalence rates, although there are regional differences. Silicosis is the most common pneumoconiosis in the world and silica’s exposure is a predisposing factor for TB, even in workers without silicosis. However, little is known about the influence of silicosis on TB rates in general population. The objective of this study is evaluate the impact of silicosis on epidemiology of tuberculosis in general population in cities of Minas Gerais (MG) state.

Methods Ecological study, based on DATASUS data, from 2002 to 2016. TB rates in cities with known silica exposure (case-cities) were compared to others with no evidence of such exposure (control cities). The cities were matched in relation to: incidence of AIDS, HDI (longevity, education and income) and percentage of occupation in the mineral´s extraction sector.

Result The TB rates per 1 00 000 inhabitants were higher in the case-cities compared to others with no evidence of such exposure (control cities). The cities were matched in relation to: incidence of AIDS, HDI (longevity, education and income) and percentage of occupation in the mineral’s extraction sector.

Discussion The silica exposure and silicosis may influence the elevation of TB rates in the general MG population. Because of the similarity of male/female ratio in the case-cities when compared to the rest of the state, it’s possible that this increase does not come only from patients with silico-tuberculosis. The difficulties of diagnosis and treatment of TB in patients with silicosis delay the therapeutic strategy, which

CHRONIC OBSTRUCTIVE PULMONARY DISORDER IN CHRONICALLY EXPOSED TO SILICA: EXPERIENCE OF HOSPITAL DAS CLINICAS DA UFMG

Introduction There is no description in literature for relationship between exposure to silica and occurrence of COPD in Brazilian population. This work aims to evaluate the importance of this exposure as a predisposing factor for chronic obstructive ventilation disorder (OVD) and associate the time of exposure with the FEV1/FVC ratio.

Methods Serie of cases with 1389 patients, from 1984 to 2017. The cases were evaluated in relation to: chest X-ray, spirometry, clinical and occupational history. The spirometry classification was based on Brazilian guidelines.