Molecular Biology & Heart Congress 2018, Volume 29
DOI: 10.4066/biomedicalresearch-C8-023

Silicosis-induced fibrosis: Pathogenesis, intervention and treatment

D Cheng Peng
Queensland Alliance for Environmental Health Sciences, Australia

Long term exposure to silica can induce silicosis, a globe disease with higher incidence in developing countries. Although extensive efforts have been made, the molecular mechanisms remain to be fully elucidated for this disease. It is believed that the general process of the lung fibrosis includes the cell damage, formation inflammation, epithelial mesenchymal transition (EMT), extra cellular matrix and collagen deposition and consequent fibrosis. Due to the pathogenic complexity of the disease, together with the irreversibility of the fibrosis, silicosis is currently a progressive and incurable disease. Pharmacological treatment methods targeting on above process have been proved to be largely unsatisfactory. As an emerging treatment protocol, cell therapy through stem cell transplantation is promising in treatment of many disease including lung fibrosis. In this talk, the molecular mechanisms of silicosis, current treatment and our work to investigate the intervention effects of stem cells from various sources on the formation and development and lung fibrosis in animal model will be discussed.

e: c.peng@uq.edu.au