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Silicosis-induced fibrosis: pathogenesis, intervention and treatment

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Abstract

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, togetherwith 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 largelyunsatisfactory. 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.

Biography

Dr Cheng Peng has completed his PhD from The University of Queensland, Australia andpostdoctoral studies from Queensland Institute of Medical Research. He is now working as SeniorResearch Fellow in Queensland Alliance for Environmental Health Science at the University of Queensland and Joint Professor at Shandong Academy of Occupational Health and Occupational Medicine. He has published more than 40 papers in reputed journals and has been serving as an editorial board member of Journal of Clinic Epigenetics, Biomarkers Journal and Advances in Clinic Toxicology.

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