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# Use of mesenchymal stem cells for therapies in the lung

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Over the past few years, stem cells has emerged as a possible important therapy on lung disorders. Consistent with this idea, infusion of a specific stem cell populations termed bone marrow derived mesenchymal stem cells (B-MSCs) appear to be important in the regulation of acute inflammatory process. We are presenting examples of the use of B-MSC in acute and chronic diseases in the lung. We demonstrated that B-MSC administration prevented endotoxin induced Acute Lung Injury (ALI), suppressing the endotoxin induced pro-inflammatory cytokines. To demonstrate the clinical relevance of these results, we are presenting new data that will show the association between the ability to induce mobilization of bone marrow derived cells and the survival of patients at the intensive care unit with ALI. Lung transplantation is a viable treatment option for end-stage pulmonary diseases, but development of obliterative bronchiolitis (OB), reduces survival, accounting for 30% of deaths after the third year. In addition, some of the mechanisms used by B-MSC to control injury will be review.

## Biography

Being trained as an MD doing basic research, Dr Rojas has a complete perspective to understand the importance of translational medicine. His research on the biology of lung injury and repair, particularly in models of pulmonary fibrosis, acute lung injury and radiation. His research had resulted in the expansion of the understanding of the immune and cellular mechanisms used by mesenchymal stem cells to prevent and control lung injury. Recently, his research focuses on the interactions of mesenchymal stem cells with the micro-environment resulting in important contributions on aging and MSC-extracellular matrix interactions.