Acute Pulmonary Diseases Treated with Safe, FDA-Approved Compound: High Molecular Weight Hyaluronan (HMW-HA)

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Technology description

Summary

There are no approved therapeutics for ALI/ ARDS or ventilator-induced lung injury. This is an orphan indication with an urgent need for treatment option. In the U.S. 74,500 persons die from ALI each year (NEJM 2005) Survivors suffer from impaired cognition and mental disability.

Description

Acute Lung Injury (ALI) and its more serious form, Acute Respiratory Distress Syndrome (ARDS) are devastating diseases characterized by high mortality and with no approved therapeutic options. University of Chicago researchers have validated HMW-HA as an important modulator of vascular permeability and an effective agent against experimental models of ALI/ARDS. Hyaluronan is a safe, naturally occurring glycosaminoglycan that is FDA-approved for osteoarthritis and other ophthalmic applications. Its use against these serious diseases is anticipated to significantly improve patient outcomes.

Rat andin vitrocell data both demonstrate the efficacy of HMW-HA for the treatment of Acute Lung Injury (ALI) and Acute Respiratory Distress Syndrome (ARDS) [hyperlink]. These are severe diseases characterized by respiratory failure and pulmonary capillary leakage. This leakage is accompanied by an inflammatory infiltration of alveolar space by proteins, cytokines and neutrophils which severely degrade respiratory function. In the United States there are 190,600 cases of acute lung injury , which are associated with 74,500 deaths and 3.6 million hospital days.

Dr. Joe (Skip) Garcia is a leading authority on the genetics, prevention, and treatment of acute and chronic lung disease as well as the molecular biology of blood vessels. He has written over 300 peer-reviewed journal articles and 25 book chapters, in addition to serving as the co-editor in chief ofMicrovascular Research. His clinical group is actively conducting clinical trials on ALI/ARDS therapeutics. His laboratory continues to identify novel polymorphisms which confer susceptibility to acute and chronic lung diseases such as idiopathic pulmonary fibrosis, pulmonary hypertension, asthma, lung cancer and acute lung injury.

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