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Human Bronchial Fibroblast as the Catalyst for Global Health Care Crisis and the Use of Heliox as Rescue Therapy for Asthma-Like Respiratory Syndromes

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Respiratory syndromes caused by viral respiratory illness (VRI) range in severity from the common cold to severe acute respiratory distress that is asthma-like. Ongoing research has demonstrated that Human Bronchial Fibroblast (HBF) with transformation from fibroblast-to-myofibroblast under the influence of transforming growth factor (TGF-β_1) or (TGF-β_2) as the etiology of airway remodeling; bronchial wall thickening (BWT) and as the primary source of air-flow limitation (AFL). HBF is now being associated with multiple viral pathogens that is proving difficult to ameliorate the related AFL (BWT and atelectasis) with traditional respiratory treatment modalities. Viral identification is required via a respiratory viral panel for confirmation. Patients can have sudden onset or chronic persistent symptoms that are diagnosed as unspecific asthma, thought to be neutrophilic asthma. For decades, VRI continue to be a catalyst for global healthcare critical care crisis. During vast outbreaks, patients with flu/asthma-like symptom shave shown up in the emergency department in need of intensive urgent respiratory support. It may cause life threatening partial or complete respiratory collapse that quickly advance to salvage therapies. There are anecdotal reports dating back to 1935 where heliox was used successfully to treat asthma-likes syndromes related to status asthmaticus. It isinferred that 80% helium and 20% oxygen – (heliox) may reduce gas airway resistance through airways with BWT that act as a bridge support to improve alveolar gas exchange. More study is needed to understand the etiology of BWT, develop effective treatment medication modalities and define the role of heliox as a treatment option.

Biography:

Sherwin Morgan is a Registered Respiratory Therapist with The National Board for Respiratory Care in the United States. Current position: Research Coordinator for the Department of Respiratory Care Services (RCS), Pulmonary and Critical Care at The UChicago Medicine. Past role at UChicago Medicine: Associate Director of Clinical Operations / Critical Care RCS. He is an active member of the American Association for Respiratory Care. He has published more than 50 peer review papers regarding the emerging horizon in global Respiratory Care research. He has presented at many international venues that includes; Moderator for the Virology-Influenza Summit, Vienna Austria 2018.