



Study Confirms Minimally-Invasive Pulmonx Therapy Effectively Treats Emphysema

Final results of key European study chart the course for an improved standard of care for emphysema treatment

September 25, 2011, Amsterdam, Netherlands (ERS) – Pulmonx Inc. has just announced final results of its Chartis multi-centre study ¹, presented today at the European Respiratory Society’s 2011 Congress. This definitive data confirms that use of the Chartis® Pulmonary Assessment System to plan Zephyr® valve treatments is the key to successful EBV treatment of emphysema.

The Chartis assessment quickly and reliably provides regional lung information to allow a physician to plan EBV treatment in a way that maximizes the potential benefit to the patient. This is a key breakthrough that will enable physicians to offer this highly effective and minimally invasive treatment option to many more patients, with significant benefit to the majority treated.

“Using the Chartis system to plan EBV treatment can result in very significant benefits for emphysema patients, in terms of improvement in lung function and quality of life,” said Professor Felix Herth, MD, PhD., FCCP, Chairman and Head of Pneumology and Respiratory Care at Thoraxklinik, University of Heidelberg, Germany. “I really believe that we have the opportunity to expand this therapy, now that we have proven the effectiveness of the Chartis and EBV in reducing hyperinflation, and I would expect to see Chartis and EBV treatment become a standard-of-care in the management of emphysema,” he continued.

The Chartis study enrolled 97 emphysema patients, some of whom would not have been treated under earlier study protocols. All patients underwent a Chartis assessment, followed by treatment with Zephyr® endobronchial valves in one single lobe of the lung. The Chartis system accurately predicted response in 3 out of 4 patients. And patients who responded per Chartis prediction experienced significant improvements in their lung function, exercise tolerance, and quality of life.

“The Chartis Study data has clearly shown that EBV therapy plays an important role in managing emphysema” said Dirk-Jan Slebos, MD, Ph.D., Department of Pulmonary Diseases, University Medical Center, Groningen, and co-lead investigator. “We have patients responding in ways that can only be called “life-changing”. Finally, we have something that can truly make a difference for the patient.”

¹Use of Chartis® System to Optimize Subject Selection for Endobronchial Lung Volume Reduction (ELVR) in Subjects with Heterogeneous Emphysema.



About Emphysema

Emphysema is a form of chronic obstructive pulmonary disease (COPD) that occurs when the air sacs in the lungs are gradually destroyed, leading to shortness of breath even while at rest. Globally over 30 million patients have been diagnosed with emphysema. COPD is a major cause of disability and a major public health problem. The World Health Organization ranks it as the fourth leading cause of death today and it is expected to become the third leading cause of death worldwide by 2030s. Most patients suffering from emphysema currently have few options for treatment. Emphysema is a major economic problem and a burden on the global healthcare system, due to millions of work days missed, expensive and minimally effective therapies and frequent hospitalizations related to the disease.

About The Chartis Multi-Center Study

This European study enrolled 97 patients at 6 sites in Germany, Netherlands, and Sweden between May 2010 and March 2011. A broad range of severe emphysema patients were allowed to enroll. Final data was completed for 80 patients, showing a median volume reduction in the treated lobe of 72% in predicted responders vs. 4% in predicted non-responders. The Chartis system accurately predicted response in 3 out of 4 patients. Predicted responders experienced clinically significant improvements in all of the study endpoints, measured 30 days after treatment—an average 27% improvement in FEV1, a standard measure of lung function, a 19% average improvement in their 6-minute walk distance, and a 15 point average improvement in their reported quality of life, while predicted non-responders experienced little or no benefit on average. To put this in context, the threshold for ‘clinically significant’ in the medical community is 12-15% for FEV1 and 6-minute walk distance, and a 4 point improvement in reported quality of life.

About the Chartis and Zephyr Technologies

Emphysema patients suffer from hyperinflation—an increase in volume of the diseased portions of their lungs which then compresses the healthier areas. This results in breathlessness and costly disability. Many patients cannot carry out even the most basic activities of everyday living, and may require supplemental oxygen. Zephyr® valves can reduce volume in the diseased portion of the lungs thereby improving the ability of the healthier portions of the lungs to function, and relieving the patient’s symptoms, as well as allowing patients to increase their activity levels, promoting better overall health.

Some patients have extra airflow pathways between the lobes of their lungs, a condition known as “collateral ventilation”. Large amounts of collateral ventilation can prevent the valves from working effectively by circumventing them. The Chartis System includes a balloon catheter that is inserted into the airway and a simple, easy-to-use console that displays expiratory airflow, pressure and resistance, providing a quantitative measure of collateral ventilation.

Previously published studies on the Zephyr endobronchial valve have confirmed the safety of the treatment, as well as its effectiveness in a subset of emphysema patients. The challenge in applying the therapy to a broad population of emphysema patients has been the ability of physicians to plan valve treatments to account for anatomical variations in the lungs of individual patients which impact the



effectiveness of the valves. The addition of the Chartis assessment now ensures that a very high percent of treated patients will experience benefit from EBV treatment.

The Pulmonx Chartis System provides new information about specific areas of the patient's lung, enabling more informed treatment planning. The Pulmonx Zephyr EBV is the subject of numerous peer-reviewed studies, and has already been used to treat thousands of patients worldwide. The Chartis system with Zephyr valves have been available as a system in Europe and other countries since late 2009.

About Pulmonx

Pulmonx, based in Redwood City, CA and Peseux, Switzerland, is focused on developing and marketing minimally-invasive medical devices and technologies for the diagnosis and treatment of pulmonary disorders. The Chartis System and Zephyr EBV is the first effective diagnostic and therapeutic solution to the problem of emphysema-induced hyperinflation. www.pulmonx.com.

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