

Long-term safety of bilateral targeted lung denervation in patients with COPD in a single procedure

Arschang Valipour¹, Christophe Pison², Romain Kessler³, Gaetan Deslee⁴

¹ Ludwig-Boltzmann-Institute for COPD and Respiratory Epidemiology, Otto-Wagner-Spital, Vienna, Austria

² CHU de Grenoble, Clinique Universitaire de Pneumologie, Université Grenoble Alpes, Grenoble, France

³ Service de Pneumologie, Nouvel Hôpital Civil, Université de Strasbourg, Strasbourg, France

⁴ CHU de Reims, Hôpital Maison Blanche, Service de Pneumologie, Reims, France

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Background: Targeted lung denervation (TLD) is a novel bronchoscopic therapy that ablates parasympathetic pulmonary nerves along the main bronchi. Bilateral (single procedure) TLD treatment has previously been reported as feasible (*Eur Resp J* 2014 44: Suppl 58, P1775).

Aim: Evaluate long-term safety of treating both lungs in a single TLD procedure.

Methods: A prospective, multicenter, study of patients with COPD ($FEV_1/FVC < 0.70$; FEV_1 30-60% predicted) was performed (NCT01716598). Patients underwent bilateral TLD using a lung denervation system (Holaira, Inc., USA) in a single procedure in an outpatient setting. Long-term safety was determined by bronchoscopic inspection of the treatment sites at 1-year and registration of all AEs through 18 months.

Results: Fifteen patients (47% male, age 63.2 ± 4.0 yrs) underwent TLD at 15 watts. Bronchoscopic inspection at 1-year was completed in 14 patients with complete healing reported in all. 12 patients completed 18-month follow-up with no deaths or unexpected AEs. 8 serious AEs were observed; 3 COPD exacerbations, 1 arrhythmia, 1 BPH, 1 hemoptysis, 1 motorcycle accident and 1 urinary retention. Overall respiratory AE rates have remained low over longer-term follow up.

Conclusion: TLD delivered to both lungs in a single procedure is safe with no bronchoscopic findings at 1-year and consistent low number of respiratory related adverse events reported through 18 months.

