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Two-Stage Bronchoscopic Endobronchial valve treatment can lead to progressive Lung volume reduction and may decrease Pneumothorax risk**Thomas Egenod***Dupuytren University Hospital Limoges, France*

Background: Since successful development of endobronchial valves (EBV) as treatment for severe emphysema, its main complication, pneumothorax, remains an important concern.

Objective: We hypothesized that a two-step EBV implantation, during two distinct iterative procedures could lead to a more progressive target lobe volume reduction (TLVR) and thus ipsilateral lobe re-expansion, resulting in a significant decrease in the pneumothorax rate.

Methods: This retrospective bi-center study carried out by Limoges and Toulouse University Hospitals included patients following the inclusion criteria established by the BLVR expert panel. All patients were treated by two distinct procedures: first, EBVs were placed in all but the most proximal segment or sub-segment. The remaining segment was treated subsequently. All patients had a complete evaluation before treatment, and 3 months after the second procedure.

Results: Out of 58 patients included, only 4 pneumothoraxes (7%) occurred during the study. The other complications were pneumonia and severe COPD exacerbation (8.6% and 13.7% of patients, respectively). Significant improvement was found for FEV1 (+19.6 ± 25%), RV (-468 ± 960mL), 6MWD (30 ± 85m), BODE Index (-1.4 ± 1.8 point) and TLVR (50.6 ± 35.1%). Significant TLVR (MCID) was obtained in 74.1% of patients (43/58).

Conclusion: This new approach using EBV could reduce the incidence of pneumothorax without increasing other complication rates. Clinical and physiological outcomes are similar to those reported in studies using the conventional single-step treatment.

Biography

Thomas Egenod is head of the interventional pulmonology service at the Limoges University Hospital. An active member of the French Endoscopy Group, he is known in his country as an expert in endoscopic lung volume reduction. He is also the one who designed this two-step approach for endoscopic lung volume reduction with valves and disseminated it to other French centers which use it widely.