

**Abstract Type : Oral Presentation**  
**Abstract Submission No. : F-009055**

## **Clinical implication of the grading system for airway complications after lung transplantation**

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**Introduction:** Airway complications remain a major cause of morbidity and mortality after lung transplantation. Since there was clearer consensus before, 2018 International Society of Heart and Lung Transplantation (ISHLT) had proposed the universal guidelines for description of airway complications after lung transplantation. This study is aimed to analyze the feasibility and reproducibility of the grading system and its clinical implication after lung transplantation.

**Methods:** We performed a retrospective analysis of 188 patients who underwent lung transplantation between January 2018 and December 2021. The airway complications were diagnosed by the routine fibrotic bronchoscopy after lung transplantation. We performed postoperative 1 months, 3 months, 6 months, and 1 year follow-up procedure. Demographic features and relevant clinical data were retrospectively analyzed.

**Results:** 63.1 percent of patients suffered any type of airway complications after lung transplantation. Ischemic or necrotic change of airway was more frequent in right side and the extent was more wide in right side (18.3% vs. 30.2%; the ratio of more than grade 2 extent, 2.4% vs. 6.3%). The airway dehiscence was found only in 7 patients during the study period, and all of them were more than grade 3 dehiscence, thus they underwent the surgical repair for the airway dehiscence. For the stenosis, the frequency was higher in the left side (5.6% vs 0.8%), however the grade and extent of the stenosis demonstrated more higher in the right side. The clinical course of the patients with airway complications were not significantly poorer, however, they showed longer hospital stays and more frequent postoperative readmission.

**Conclusion:** The 2018 ISHLT grading system for airway complications is feasible and shows the relevant clinical implications for grading airway complications after lung transplantation. However, it needs further investigations to modify and apply in the real world