

심폐재활

게시일시 및 장소 : 10 월 18 일(금) 08:30-12:20 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 10:04-10:08 Room G(3F)

## **P 1-26**

### **Prevalence and Associated Factors of Dysphagia in Lung Transplantation**

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#### **Introduction**

The number of lung transplantation (LTx) has recently increased. Dysphagia is a common complication after LTx and can cause severe aspiration pneumonia, particularly in immunocompromised patients. There are very few studies on dysphagia after LTx, especially domestic data have not been reported. The study is to investigate the prevalence and associated factors of dysphagia after LTx by a videofluoroscopic swallowing study (VFSS).

#### **Methods**

Lung transplant recipients from March 2017 to June 2019 were included. Dysphagia was assessed by VFSS to confirm laryngeal penetration and tracheal aspiration with or without symptoms. We investigated the duration of tubal feeding, duration of ventilator application, presence of tracheotomy and an intensive care unit acquired weakness (ICUAW). The duration was based on the day before the VFSS date. ICUAW was defined as Medical Research Council (MRC) sum score below 48 and the muscle strength was assessed in 12 muscle groups; shoulder abductors, elbow flexors, wrist extensors, hip flexors, knee extensors, and ankle dorsiflexors. We compared these factors with no penetration/aspiration (PA) group and PA group. All statistical analyses were performed with SPSS software using independent t-test and chi-square test.

#### **Results**

A total of 33 patients were enrolled in the study, including 23 men and 10 women. The mean age was  $53.3 \pm 10.5$  years. The most common disease leading to LTx was interstitial lung disease and 90.9% received double LTx (Table 1). VFSS was performed on average of 22 days after surgery. All patients were in the ICU and received nutrition via nasogastric tube before VFSS. Twenty-three (69.7%) patients showed penetration or aspiration in VFSS. Aspiration showed 50.5% of all patients, of which 84% were aspiration without symptom (Table 2). In comparison between no PA group and PA group, the presence of

tracheostomy and ICUAW was significantly more in PA group ( $p < 0.05$ ). However, age, duration of tubal feeding and duration of ventilator application were not statistically significant between two groups (Table 3).

## Conclusions

This is the first study to report the dysphagia of LTx recipients in Korea. We found that the prevalence of dysphagia after LTx was about 70% and the presence of the tracheostomy tube and ICUAW were associated with dysphagia after LTx. In addition, silent aspiration accounted for 84% of tracheal aspiration. For prevention of aspiration pneumonia, diagnostic evaluation of dysphagia after LTx is strongly recommended before starting oral feeding.

Table 1. Demographics and clinical characteristics of the subjects

Variables	Values
Age (years)	53.3 ± 10.5
Gender	
Male	23 (69.7%)
Female	10 (30.3%)
Disease leading to transplant	
Interstitial lung disease	22 (66.7%)
Idiopathic pulmonary fibrosis	14 (42.4%)
Others	8 (24.2%)
Chronic obstruction pulmonary disease	5 (15.2%)
Graft-versus-host disease	4 (12.1%)
Pulmonary hypertension	1 (3.0%)
Ischemic heart failure with acute respiratory distress syndrome	1 (3.0%)
Lung transplantation type	
Single lung	2 (6.1%)
Double lung	30 (90.9%)
Heart-lung	1 (3.0%)

The values are mean ±2SD or number (%)

Table 2. Classification and distribution of dysphagia

Dysphagia	Number (%)
No Penetration/Aspiration	10 (30.3%)
Penetration/Aspiration	23 (69.7%)
Penetration	6 (18.2%)
Aspiration	17 (50.5%)
With symptom	3 (9.1%)
Without symptom	14 (42.4%)

Table 3. Comparison between PA group and no PA group.

Factors	PA group (N=23)	No PA group (N=10)	p-value
Age (years)	54.5 ± 10.3	52.1 ± 15.4	0.101
Duration of tubal feeding (days)	22.4 ± 21.2	22.6 ± 13.3	0.776
Duration of ventilator application (days)	23.2 ± 25.2	28.9 ± 26.7	0.470
Tracheostomy (%)			
Presence	82.6%	17.4%	0.035*
Absence	40.0%	60.0%	
ICUAW (MRC sum score <48) (%)			
Yes	78.2%	21.4%	0.021*
No	20.0%	80.0%	

PA; penetration or aspiration, ICUAW; intensive care unit acquired weakness, MRC; Medical Research Council.  
\* $p < 0.05$ .