

## Poster 2

뇌신경재활

게시일시 및 장소 : 10 월 18 일(금) 13:15-18:00 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 15:45-15:49 Room G(3F)

### P 2-1

#### **Incidence and outcomes of aspiration pneumonia in Parkinson's disease: a nationwide database study**

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##### **Introduction and Objectives**

Aspiration pneumonia is one of the diseases that patients with Parkinson's disease (PD) most suffered from. Recently, incidence of aspiration pneumonia was increasing more than ever. Moreover, aspiration pneumonia accounts for the majority of death in PD patients. However, little is known about incidence and outcomes of aspiration pneumonia in patients with PD. Thus, we conducted a nationwide population-based study to investigate incidence and outcomes of aspiration pneumonia in PD patients.

##### **Method**

The National Health Insurance Service (NHIS) database covering the entire Korean population were analyzed to identify incident PD patients from 2004 to 2006 and to select 4 age- and sex-matched controls to each PD patient. We identified the occurrence of aspiration pneumonia and assess the risk factors of aspiration pneumonia in these matched cohort throughout the study period to 2017. We assessed mortality and the rate of gastrostomy insertion after occurrence of aspiration pneumonia.

##### **Results**

A total of 10159 incident PD patient and matched 39574 controls were identified. Throughout the 14 years of study period (2004–2017), the incidence of aspiration pneumonia was higher in the PD patients than the matched-controls (3.01 vs 0.59 events per 1,000 person-year). After adjusting confounders, the risk of aspiration pneumonia increased in PD patient (hazard ratio = 4.21; CI, 3.87-4.58). After occurrence of aspiration pneumonia, the mortality of patients with PD was 41.75% within 3 months, 65.22% within 1 year, 74.34% within 2 years. Within 3 months after aspiration pneumonia, 3.7% of patients received gastrostomy procedure. Older age, men, diabetes mellitus, congestive

heart failure, tuberculosis, peripheral artery disease, chronic kidney disease, cerebrovascular disease and dementia were associated with higher risk of pneumonia.

### Conclusion

To our knowledge, this is the first nationwide study of pneumonia in entire PD patients in the single country. PD patients had higher risk of experience of aspiration pneumonia, despite considering other confounders. Furthermore, about two-thirds of PD patients who have experienced aspiration pneumonia died within a year after the occurrence of aspiration pneumonia. Further research is needed for preventing aspiration pneumonia in PD patients and implementing proper measures to prevent death in PD patients after aspiration pneumonia.

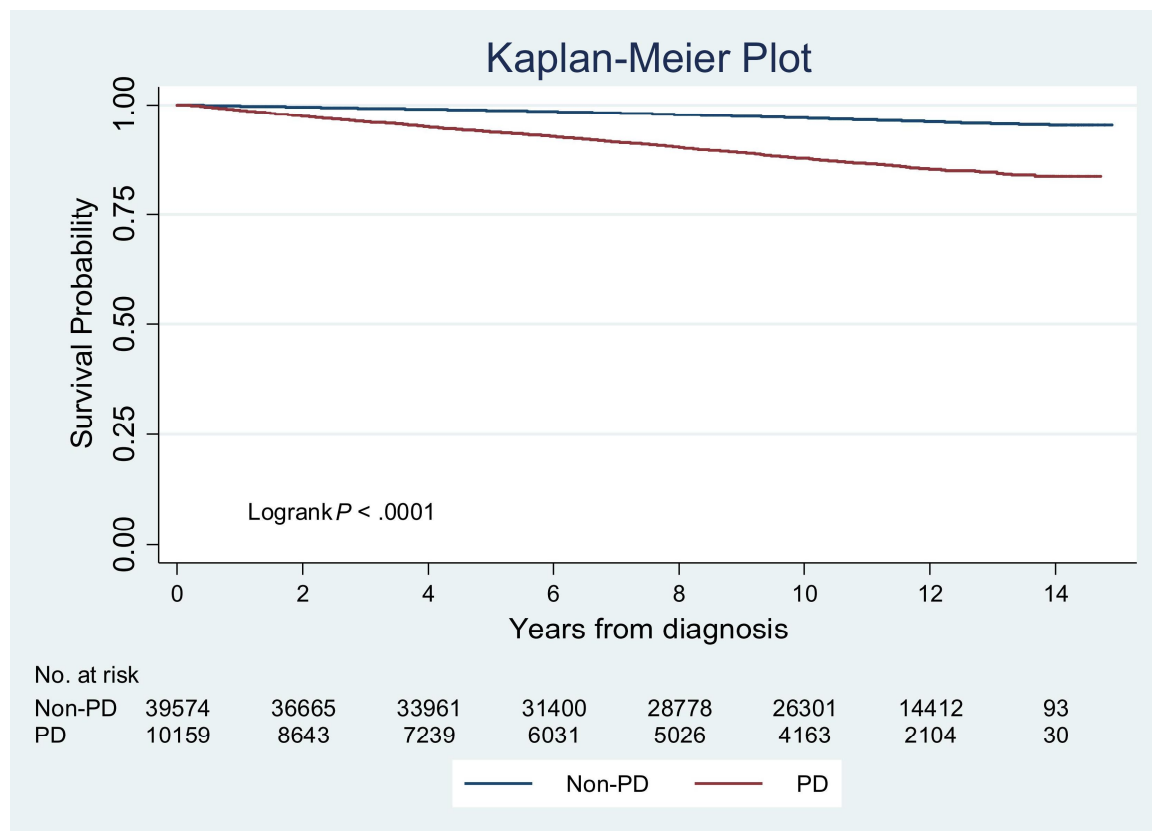


Figure 1. Kaplan Meier analysis for first occurrence of aspiration pneumonia in patients with PD and without PD.

Table 1. Incidence of aspiration pneumonia among patients with PD and control group in each year

Follow up duration (year)	Incidence (events per 1,000 person-year)	
	Patients with PD	Patients without PD
0-1	2.646	0.3623
1-2	3.479	0.4252
2-3	3.302	0.5135
3-4	3.481	0.4417
4-5	2.495	0.6015
5-6	2.869	0.5757
6-7	3.039	0.5456
7-8	2.704	0.6293
8-9	2.990	0.5655
9-10	2.949	0.7483
10-11	3.341	0.9295

PD, Parkinson's disease

Table 2. Risk factors of aspiration pneumonia in patients with PD

		Adjusted HR	(95% CI)	P-value
PD		4.21	3.87-4.58	<.0001
Sex	Male	1.00	-	
	Female	0.412	0.378-0.449	<.0001
Age (year)	40-60	1.00	-	
	60-70	3.116	2.469-3.934	<.0001
	70-	7.032	5.62-8.799	<.0001
Region of residence	Seoul and Incheon	1.00	-	
	Gyeonggi and Gangwon	0.995	0.879-1.127	0.942
	Busan, Daegu, Ulsan, and Gyeongsang	0.996	0.886-1.121	0.9507
	Daejeon, Sejong, and Chungcheong	0.817	0.694-0.961	0.0144
	Gwangju, Jeolla, and Jeju	1.02	0.891-1.168	0.7747
Comorbidities	Hypertension	1.00	0.906-1.103	0.9943
	Diabetes	1.245	1.131-1.37	<.0001
	Ischemic heart disease	1.035	0.922-1.162	0.5602
	Congestive heart failure	1.163	1.008-1.342	0.0385
	Cancer	1.052	0.905-1.224	0.5081
	Tuberculosis	1.447	1.185-1.766	0.0003
	Peripheral arterial disease	0.857	0.756-0.971	0.0158
	Atrial fibrillation	1.222	0.979-1.525	0.0769
	Chronic kidney disease	1.447	1.039-2.014	0.0287
	Dyslipidemia	0.917	0.826-1.018	0.1047
	Cerebrovascular disease	1.386	1.245-1.543	<.0001
	Dementia	1.894	1.639-2.189	<.0001
	COPD	0.983	0.898-1.077	0.7189
Seizure disorder	0.961	0.802-1.152	0.6655	

PD, Parkinson's disease; HR, hazard ratio; CI, confidence interval; COPD, chronic obstructive pulmonary disease