

뇌신경재활

발표일시 및 장소 : 10 월 18 일(금) 13:45-13:55 Room B(5F)

OP2-1-4

Pneumonia risk and related factors in patients with Parkinson disease: A national database study

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Introduction and Objectives

Pneumonia, an emerging burden to patients with Parkinson disease (PD), is known as the leading cause of death and the most common reason for hospital admission in PD patients. However, virtually nothing is known regarding the incidence of pneumonia in patients with PD. Therefore, we conducted the population-based study to explore the incidence and risk factors of pneumonia in patients with PD.

Methods

Using the National Health Insurance Service database covering the entire Korean population from 2002 to 2017, we identified incident PD patients in 2004–2006, and selected 4 age- and sex-matched controls to each PD patient. We included PD patients according to registration code in the program for rare, intractable disease for PD (V124). We identified the occurrence of pneumonia and assess the risk factors of pneumonia in these matched cohort throughout the study period to 2017.

Results

We identified 10159 incident PD patient and matched 39574 controls. During the 14-year study period (2004–2017), the incidence rate was higher in the PD patients than the matched-controls (11.21 vs 3.61 events per 1,000 person-year). Within 5 years after the index date, 15.05% of patients with PD and 6.27% of patients in control group experienced pneumonia and 32.29% of patients with PD and 15.91% of patients in control group experienced pneumonia within 10 years after the index date. After adjusting confounders, PD patients had an increased risk of pneumonia (hazard ratio = 2.264; 95% CI, 2.17–2.36). Older age, men, region of residence, diabetes mellitus, congestive heart failure, cancer, tuberculosis, atrial fibrillation, chronic kidney disease, cerebrovascular disease, dementia, COPD and seizure disorder were associated with higher risk of pneumonia. Age was the strongest risk factor of pneumonia (in group older than 70 years; HR 6.517, 95% CI 5.895-7.204). Hypertension and dyslipidemia were a protective factor for pneumonia (for hypertension, HR 0.95, 95% CI 0.908-0.993; for dyslipidemia, HR 0.805, 95% CI 0.765-0.846).

Conclusions

Through using a nationwide population-based database which includes entire 48 million individuals in the single country, this study revealed that PD patient were more likely to experience pneumonia than the general population, even after considering other confounders. The pneumonia incidence

at each period over 10 years from diagnosis and identified risk factors will help to assess the risk of pneumonia and implement proper preventive measures in patients with PD.

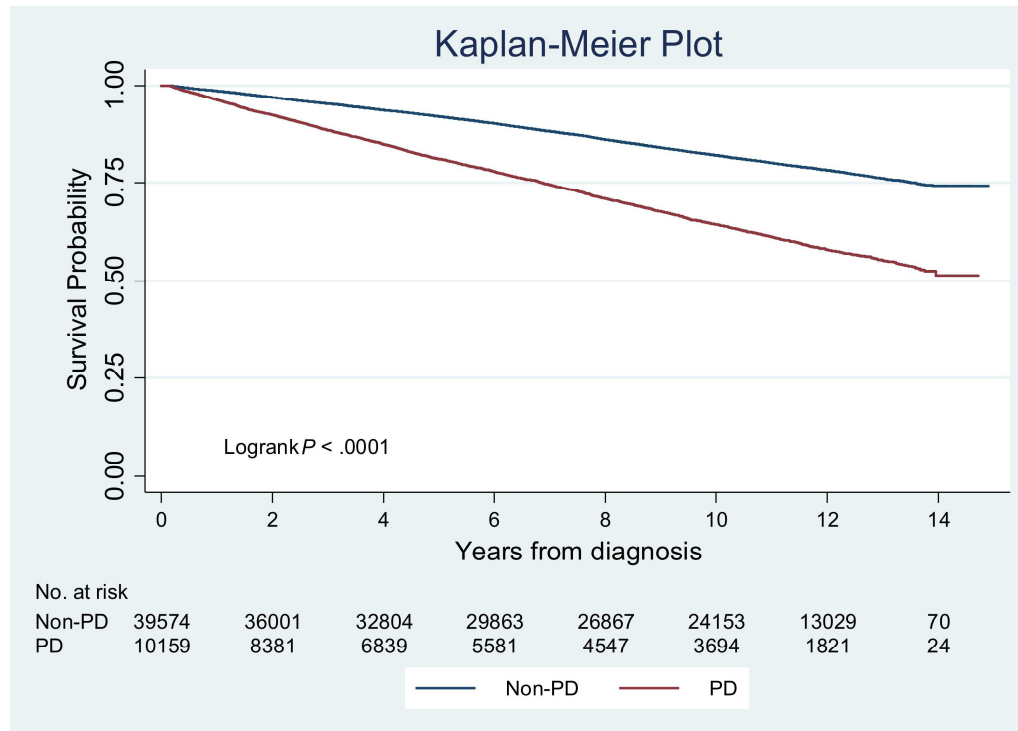


Figure 1. Kaplan Meier analysis for first occurrence of pneumonia in patients with PD and without PD.

Table 1. Incidence of 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	7.822	1.925
1-2	10.438	2.658
2-3	11.003	2.982
3-4	10.859	3.236
4-5	11.977	3.436
5-6	11.247	3.768
6-7	11.269	4.106
7-8	12.349	4.250
8-9	11.256	4.515
9-10	11.672	4.307
10-11	13.363	4.505

PD, Parkinson's disease

Table 2. Risk factors of pneumonia in patients with PD

		Adjusted HR	(95% CI)	P-value
PD		2.264	2.171-2.361	<.0001
Sex	Male	1.00	-	
	Female	0.562	0.541-0.585	<.0001
Age (year)	40-60	1.00	-	
	60-70	2.674	2.408-2.97	<.0001
	70-	6.517	5.895-7.204	<.0001
Region of residence	Seoul and Incheon	1.00	-	
	Gyeonggi and Gangwon	1.133	1.065-1.205	<.0001
	Busan, Daegu, Ulsan, and Gyeongsang	1.335	1.261-1.413	<.0001
	Daejeon, Sejong, and Chungcheong	1.329	1.238-1.426	<.0001
	Gwangju, Jeola, and Jeju	1.53	1.436-1.629	<.0001
Comorbidities	Hypertension	0.95	0.908-0.993	0.0226
	Diabetes	1.124	1.074-1.177	<.0001
	Ischemic heart disease	1.041	0.985-1.1	0.1572
	Congestive heart failure	1.258	1.177-1.344	<.0001
	Cancer	1.141	1.063-1.225	0.0003
	Tuberculosis	1.652	1.508-1.81	<.0001
	Peripheral arterial disease	0.961	0.907-1.018	0.1733
	Atrial fibrillation	1.178	1.054-1.315	0.0037
	Chronic kidney disease	1.581	1.339-1.867	<.0001
	Dyslipidemia	0.805	0.765-0.846	<.0001
	Cerebrovascular disease	1.254	1.188-1.323	<.0001
	Dementia	1.589	1.468-1.721	<.0001
COPD	1.278	1.227-1.331	<.0001	
Seizure disorder	1.113	1.015-1.222	0.0235	

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