

노인재활

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

질의응답 일시 및 장소: 10 월 18 일(금) 10:00-10:45 Room G(3F)

## **P 1-11**

### **Hip fracture after Parkinson's disease and related mortality: A nationwide matched cohort study**

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#### **Objective**

Parkinson's disease (PD) is a neurodegenerative disease that affects patient's posture and balance. Clinical features such as freezing of gait, stooped posture make patients prone to falling. So PD patients have higher risk of fracture and of all types, hip fracture is currently considered as an important issue because of increasing mortality and length of hospital stay. There have been few studies about PD and risk of hip fracture, but they have some limitations with diagnostic accuracy of PD and small sample size. The aim of this study was to evaluate the risk of hip fracture in individuals with and without PD, and to find out the effects of hip fracture on mortality in PD using sample data from Korea National Health Insurance Service.

#### **Methods**

The nationwide population-based matched cohort study was conducted using data from KNHIS from 2004 to 2015. PD was defined by both diagnosis code of ICD-10 (G20) and registration code (V124) for PD in the program for rare, intractable disease. Secondary parkinsonism and Parkinson-plus syndrome were not included. Hip fracture was defined as diagnosis code of ICD-10 (S720). A matched cohort without PD was enrolled by randomly matching patients by sex, age, and year of diagnosis to the PD group with a ratio of 1:9. Hip fracture risk in PD group and control group was calculated by Cox proportional hazards regression model. We calculated the hip fracture rate using Kaplan-Meier method, and used the log-rank test to compare the hip fracture distributions between the two groups.  $P < 0.05$  was considered statistically significant. The Data analysis was performed using the SAS system for Windows version 9.4.

#### **Results**

Total 33,060 patients were enrolled; 3,306 in PD group, 29,754 in control group. During the follow up periods, hip fracture developed 4.45% in PD group and 2.20% in control group. PD group had higher risk for hip fracture than control group (HR 2.324, 95% CI, 1.909-2.828). According to sex, HR in males was 3.143 (95% CI, 2.082-4.745) and in females was 2.123 (95% CI, 1.692-2.664). In terms of age, PD group had higher risk for hip fracture compared to control group in all age groups (<60 : HR 2.767, 95% CI, 1.078-7.103, 60-69 : HR 3.910, 95% CI, 2.361-6.477, 70-79 : HR 2.244, 95% CI, 1.680-2.997, ≥80 : HR 1.963, 95%

CI, 1.355-2.843). Influence of hip fracture on mortality was not statistically significant in overall PD patients (HR 1.010, 95% CI, 0.770-1.325). However, in PD group aged 60-69 years, hip fracture significantly increases mortality rate (HR 3.080, 95% CI, 1.136-8.351) compared to control group.

### **Conclusion**

Our study shows that the risk for hip fracture in patients with PD was almost double than control group, especially triple in male. Effects of hip fracture on mortality were significantly increased in PD group aged 60-69 years. These findings suggest that prevention of hip fracture is important in PD and rehabilitation program with balance training would be beneficial.