中文題目：高血糖危症與帕金森氏症之關聯性
英文題目：Association between hyperglycemic crisis and Parkinson's disease
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Background: Hyperglycemic crisis episodes (HCE) signify poor control of diabetes, which may in turn increase the risk of Parkinson's disease (PD) through chronic neurodegeneration. Since literature on this process is still scarce, we conducted the present study to clarify the issue.

Methods: We recruited diabetic patients with and without HCE matched at a 1:1 ratio by age, sex, and index date between 2000 and 2002 from the Taiwan National Health Insurance Research Database for this nationwide population-based cohort study. Comparison for the development of PD between diabetic patients with and without HCE was performed by following up until 2014 using Cox proportional hazard regression analysis. Independent predictors for PD were also investigated among all the patients.

Results: In total, 10056 diabetic patients with HCE and an identical number of diabetic patients without HCE were recruited into this study. The mean age (±SD) and male ratio were 62.0 (±10.5) years and 52.1% in both cohorts. Compared to patients without HCE, patients with HCE were found to have higher prevalence rates of head injuries, hypertension, hyperlipidemia, chronic obstructive pulmonary disease, renal disease, liver disease, and mental disorders in their past histories. They were also found to have comparatively lower monthly incomes. Patients with HCE had an increased risk for PD compared to patients without HCE in the first follow-up year after adjusting for past histories and monthly income (adjusted hazard ratio [AHR]: 1.52; 95% confidence interval [CI]: 1.07–2.16). There was no difference in the risks for PD in the overall analysis and stratified analyses by sex and follow-up after the first year. Compared to patients without HCE, patients with HCE ≥ 3 had a 27% increased risk for PD (AHR: 1.27; 95% CI: 1.05–1.54). In addition to HCE, hypertension, hyperlipidemia, and mental disorders were also independent predictors for PD.

Conclusion: HCE increased the risk for PD in the first follow-up year. HCE ≥ 3 was an independent predictor for PD. Close follow-up and control of the diabetes as well as hypertension, hyperlipidemia, and mental disorders are warranted in this population.