

Association between Parkinson's disease and the risk of cardiovascular disease and all-cause mortality

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Background: Although epidemiologic studies have consistently reported an increase in mortality associated with Parkinson disease (PD), the relationship between cardiovascular disease (CVD)—the leading cause of death—and PD is unclear. In this nationwide study, we assessed the risk of myocardial infarction (MI), stroke, and all-cause mortality in patients with PD in Korea. Methods: A population-based, age- and sex-matched cohort study was conducted using the database from the Rare Intractable Disease registry and the Health Insurance Review and Assessment Service, which covers the entire Korean population, from 2010 to 2015. We analyzed 25 624 PD and 128 120 non-PD cases (≥ 40 years; mean age, 69.0 ± 10.2 years; 42.5% men) without previous diagnosis of MI or stroke. Survival analysis, log-rank test, and Cox proportional hazards regression models were used to calculate the incidence, survival rate, and hazard ratio of CVD and mortality. Results: PD was significantly associated with the prospective development of MI (hazard ratio [HR]: 1.43, 95% confidence interval [CI]: 1.28–1.59), stroke (HR: 1.42, 95% CI: 1.31–1.54), and all-cause death (HR: 2.7, 95% CI: 2.60–2.81) after adjustment for multiple covariates during the 498 811.6 person-years of follow-up. The PD group had significantly lower 6-year MI- and stroke-free rates and survival rates than the non-PD group (log-rank p 0.0001) Conclusions: There is an increased risk of MI, stroke, and all-cause death in patients with PD. This finding has important implications for clinicians and supports the need for preventative measures for CVD in patients with PD.