

Waist circumference, abdominal obesity and risk of Parkinson's disease: A nationwide cohort study

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ABSTRACT

Background and Objectives: Although many studies support the association of obesity with neurodegenerative diseases, such as Parkinson's disease (PD), there are limited data regarding the association between abdominal obesity and PD, with mixed findings. The aim of this study was to examine the association of waist circumference (WC) with the risk of PD incidence.

Methods: We retrospectively analyzed a large-scale nationwide cohort of 6,925,646 individuals aged ≥ 40 years who underwent the Korean National Health Screening during 2009. We performed multivariate Cox proportional hazards regression to evaluate the association of WC and abdominal obesity with PD risk and calculated hazard ratios (HRs) with 95% confidence intervals (CIs) of PD incidence.

Results: During 8.35 years of follow-up, 33,300 incident PD cases developed. The risk of PD incidence tended to elevate as WC increased (P for trend < 0.001), indicating that the adjusted HR of PD incidence in the highest WC group versus the reference group was 1.16 (95% CI, 1.10–1.23), whereas it was 0.94 (95% CI 0.84–0.98) in the lowest WC group. Individuals with abdominal obesity were significantly associated with an increased PD risk (HR 1.10, 95% CI: 1.07–1.13). These associations persisted after adjusting for general obesity and stratification by sex. Even among non-obese individuals, abdominal obesity was associated with a higher PD risk (adjusted HR 1.13, 95% CI 1.08–1.18).

Conclusions: Higher WC and abdominal obesity were associated with increased PD risk. Even in non-obese individuals, abdominal obesity was associated with an increased PD risk.