PREHYPERTENSION, HYPERTENSION, AND THE RISK OF PARKINSON'S DISEASE: THE NATIONAL FINRISK STUDY

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Introduction: Longitudinal studies have suggested that some cardiovascular risk factors, such as diabetes and central obesity, are associated with the risk of Parkinson's disease (PD), but follow-up data on the association of blood pressure and hypertension with PD are lacking.

Aims: To examine the longitudinal association of prehypertension and hypertension with the risk of PD among men and women.

Methods: The study consisted of seven surveys that were conducted during 1972−2002 on representative samples of the general population derived from six geographic areas of Finland (FINRISK Study). Participants who were free of PD at baseline (n=59540, aged 25−74, and 51.8% women) were prospectively followed until December 31, 2006 to identify incident PD cases using the National Social Insurance Register database. Cox proportional-hazards models were constructed to estimate hazard ratio (HR) of PD associated with blood pressure.

Results: During a mean follow-up period of 18.8(SD 10.2) years, 423 men and 371 women were ascertained to have developed incident PD. Among women, the multivariable-adjusted HRs(95% CI) of PD associated with blood pressure levels < 130/80 (normal), 130−139/80−89 (prehypertension), and ≥140/90 mmHg (hypertension) were 1.00(reference), 1.69(1.11−2.56), and 1.67(1.12−2.48). There was no significant association between blood pressure and risk of PD in men. The multivariable-adjusted HRs of PD related to use of antihypertensive agents were 1.11(0.81−1.52) in men and 1.00(0.75−1.35) in women.

Conclusions: In women, above-optimal blood pressure, including prehypertension and hypertension, is associated with increased risk of PD. This study suggests that optimal control of blood pressure in middle-aged and elderly women may reduce the incidence of PD.