A PROSPECTIVE STUDY OF SLEEP DURATION AND THE RISK OF INCIDENT ATRIAL FIBRILLATION IN AN URBAN POPULATION: THE SUITA STUDY

Poster Contributions
Hall C
Sunday, March 30, 2014, 3:45 p.m.-4:30 p.m.

Session Title: Prevention: Gender, Race/Ethnicity, and Preventive Interventions
Abstract Category: 20. Prevention: Clinical
Presentation Number: 1219-156

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Background: Emerging evidence indicates that sleep duration is associated with cardiovascular disease. However, there is no prospective study on the association between sleep duration and the incidence of atrial fibrillation in population based prospective studies.

Methods: A total of 6,780 participants (30 to 84 years old) initially free of AF were prospectively followed up for incident AF in the Suita Study. Standard 12-lead electrocardiograms were obtained from all subjects in the supine position. Each record was coded independently by 2 well-trained physicians. Participants were diagnosed with AF if AF or atrial flutter was present on electrocardiograms obtained during a biannual routine health examination or if AF was indicated as a present illness by either annual questionnaire responses or medical records. Sleep duration was classified into 4 categories: <6, 6 and 7, 8, and ≥9 hours levels. Cox proportional hazard ratios (HRs; 95% confidence intervals, CIs) were analyzed after adjusting for age, sex, body mass index, diabetes, hypertension, hyperlipidemia, smoking, and drinking status at baseline.

Results: In 87,604 person-years of follow-up, 244 incident AF events occurred (4.15 and 1.64 per 1,000 person-years for men and women, respectively). Compared with 6 and 7 hours sleep duration, the adjusted HRs (95% CIs) of incident AF were 1.35 (0.93-1.98) for men, 2.13 (1.29-3.52) for women, and 1.57 (1.17-2.12) for men and women who slept less than 6 hours. After further adjustment for chronic kidney disease, stroke, valvular disease, coronary heart disease, heart failure, and arrhythmia except AF; the adjusted HRs (95% CIs) of incident AF were 1.36 (0.94-1.99) for men, 2.10 (1.27-3.49) for women, and 1.58 (1.18-2.13) for men and women who slept less than 6 hours.

Conclusions: Short sleep duration (<6 hours) predicts the incidence of AF in Japanese population, especially in women. Lifestyle modification for appropriate sleep duration is important for preventing AF in general population.