



Arrhythmias

HIGHER CIRCULATING TOTAL AND HIGH-MOLECULAR-WEIGHT ADIPONECTIN ARE ASSOCIATED WITH INCREASED RISK OF ATRIAL FIBRILLATION IN OLDER ADULTS

Poster Contributions

Poster Sessions, Expo North

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Background: Obesity is associated with higher risk of atrial fibrillation (AF), but the factors involved remain incompletely understood. Adiponectin has cardioprotective properties, suggesting that lower levels seen in obesity could heighten AF risk. Among older adults, however, higher adiponectin has been associated with greater risk of outcomes associated with AF, including heart failure (HF), cardiovascular disease (CVD), and mortality, although recent reports have found these associations to be U-shaped.

Methods: We examined the associations of total adiponectin and its more bioactive HMW fraction with incident AF in the Cardiovascular Health Study, a population-based study of older adults. The present analyses focused on participants free of prevalent CVD, HF or AF with plasma available for adiponectin measurement (n=3190; mean age 74±5). Incident AF was determined by yearly ECG or by review of hospitalizations and Medicare claims data. Cox regression was used to estimate risk of AF.

Results: During median follow-up of 11.4 yrs, there were 886 incident AF events. Cubic splines showed the association between adiponectin and AF to be linear. After adjusting for potential confounders, including age, sex, race, education, height and weight (or body mass index), blood pressure, hypertensive Rx, smoking, alcohol, health status, estimated GFR, and N-terminal pro-B-type natriuretic peptide, the hazard ratio (95% CI) for AF per SD increase in total adiponectin was 1.14 (1.05-1.24), while that for HMW adiponectin was 1.17 (1.09-1.27). Additional adjustment for putative mediators, including subclinical CVD, glycemia, lipids, and inflammation did not significantly affect these estimates.

Conclusions: The present findings show for the first time that higher, not lower, levels of total and HMW adiponectin are associated with increased risks of AF in older adults independent of adiposity and other measured covariates, despite the adipokine's documented cardiometabolic benefits in experimental studies. Additional work is necessary to determine if adiponectin is a marker of failed counter-regulatory pathways or whether this hormone is directly harmful in the setting of advancing age.