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Arrhythmias

OPTIMAL BLOOD PRESSURE IN PATIENTS WITH ATRIAL FIBRILLATION

Poster Contributions
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Background: The exact relationship between blood pressure (BP) and mortality is unclear in a population of patients with atrial fibrillation (AF).

Methods: We performed a post hoc analysis of 3,947 participants from the Atrial Fibrillation Follow-Up Investigation of Rhythm Management (AFFIRM) Trial. Systolic (SBP) and diastolic blood pressures (DBP) at baseline and up to one-year follow-up were categorized in 10-mm Hg increments. The primary outcome was all cause mortality (ACM). The secondary outcome was a composite of ACM, sustained ventricular tachycardia, ventricular fibrillation, pulseless electrical activity, clinically significant bradycardia, stroke, major bleeding, myocardial infarction and pulmonary embolism. A subanalysis was performed for the rate and rhythm control arms, and after excluding for coronary artery disease (CAD) population.

Results: SBP and DBP followed a "J shaped" curve with respect to primary and secondary outcomes after multivariate analysis. A nonlinear Cox Proportional Hazards model showed that the incidence of ACM was lowest with (SBP/DBP) of 140.2/78.2 mm Hg. Similar "J shaped" curves were also obtained for rate control, rhythm control, as well as a population excluding CAD.

Conclusion: In a population of patients with AF, A J-shaped relationship existed between BP, ACM and secondary outcome with the lowest expected event rates in the range SBP: 130 - 140 mm Hg and DBP: 70 - 80 mm Hg. Low BP (< 110/60 mm Hg) seemed to be more dangerous than high BP in the AF population.

Relationship between blood pressure (BP) and primary outcome in the overall population. A. Adjusted hazard ratio (HR) of the primary outcome as a function of the baseline and average follow-up systolic blood pressure (SBP). B. Adjusted hazard ratio (HR) of the primary outcome as a function of the baseline and average follow-up diastolic blood pressure (DBP)