POORLY CONTROLLED BLOOD PRESSURE IS INDEPENDENTLY ASSOCIATED WITH A 50% HIGHER RISK OF STROKE OR SYSTEMIC EMBOLISM IN PATIENTS WITH ATRIAL FIBRILLATION: RESULTS FROM THE ARISTOTLE TRIAL

Poster Contributions
Hall C
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Session Title: Arrhythmias and Clinical EP: Advances in Stroke Risk Stratification for Patients with Atrial Fibrillation
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Authors: Meena Rao, Sigrun Halvorsen, Daniel Wojdyla, John Alexander, Renato Lopes, Elaine Hylek, Michael Hanna, Maria Bahit, Raffaele De Caterina, Cetin Erol, Shinya Goto, Fernando Lanas, Basil Lewis, Steen Husted, Lars Wallentin, Christopher Granger, Duke Clinical Research Institute, Duke University Medical Center, Durham, NC, USA

Background: Hypertension (HTN) is an important risk factor for atrial fibrillation (AF), stroke in AF, and bleeding. We aimed to assess the effect of blood pressure (BP) control as well as the treatment effect of apixaban and warfarin according to BP on outcomes.

Methods: The study population included 18,201 patients enrolled in the ARISTOTLE trial. BP was evaluated as: 1) history of treated HTN; 2) poorly controlled HTN (systolic BP >140 mm Hg and/or diastolic BP >90 mm Hg) at study entry; and 3) poorly controlled HTN during the trial analyzed as a time-dependent covariate. The primary efficacy and safety outcomes were stroke or systemic embolism (SE) and major bleeding. Hazard ratios were derived from Cox proportional hazards models.

Results: A total of 15,916 (87.5%) patients had a history of HTN requiring treatment. This group had higher CHA2DS2VASc scores compared with those without a history of HTN; however, there was no difference in HAS-BLED scores. The risk of stroke or SE tended to be higher with history of treated HTN (HR 1.09, 95% CI 0.83-1.45) or with poorly controlled HTN at baseline (HR 1.18, 95% CI 0.99-1.42) as did rates of hemorrhagic stroke (HR 1.26, 95% CI 0.69-2.29; HR 1.18, 95% CI 0.82-1.70). Rates of major bleeding were lower in both groups, respectively (HR 0.80, 95% CI 0.66-0.98; HR 0.89, 95% CI 0.77-1.03). During the trial, 50% of patients had poorly controlled HTN at some point. After adjustment, poorly controlled HTN during the course of the trial was significantly associated with increased risk of stroke or SE (HR 1.53, 95% CI 1.25-1.86). The benefit of apixaban versus warfarin on preventing stroke or SE was consistent among patients with and without history of HTN (p interaction=0.27), BP control at baseline (p interaction=0.43), and BP control during the trial (p interaction=0.97).

Conclusions: Poor BP control is independently associated with a substantially higher risk of stroke or SE. The benefits of apixaban when compared with warfarin in reducing stroke were consistent, regardless of BP control. These results strongly support efforts to control BP as an important strategy to lower risk of stroke in patients with AF.