

中文題目：高血壓病患 24 小時血壓變異度與心房顫動

英文題目：24-h Blood Pressure Variability and Atrial Fibrillation in Patients with Hypertension

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**Background:** Hypertension is one of the critical factors leading to atrial fibrillation (AF), and its mechanisms regarding structural and functional remodeling followed by electrophysiological changes of heart are well-established. Although blood pressure (BP) has shown to be related to the development of AF, the impacts of blood pressure variability (BPV) on AF is not yet understood. This study aims to analyze the association between 24-h BP, BPV, and new-onset AF.

**Method:** Between February 2012 and March 2021, patients with hypertension who did not have AF were enrolled in this single center prospective cohort study. With ambulatory BP monitor, five different BPV parameters were retrieved for systolic BP and diastolic BP, including standard deviation (SD), weighted SD (wSD), coefficient of variation (CoV), successive variation (SV), and average real variability (ARV). Cox proportional hazard regression analysis was performed to assess the independent effects of each BP and BPV parameters and the risk of new-onset AF.

**Results:** A total of 340 patients participated the study with the mean age of 62.4. During the mean follow-up years of 5.1, seven patients developed AF. Among these BP and BPV parameters, only 24-h SBP was independently associated with the risk of new-onset AF (hazard ratio 1.071, 95% confidence interval 1.008-1.137,  $P = 0.026$ ). Otherwise, none of the 24-hour BPV parameters was independently associated with the risk of new-onset AF.

**Conclusion:** In this single center study, 24-h SBP, but not BPV, is the significant predictor of newly onset AF.