The association of vasculopathy and anticoagulants in patients with non-valvular atrial fibrillation: Data from the National Health Insurance Service of Korea

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Introduction: Vitamin K antagonist (warfarin) and Non-Vitamin K antagonist (NOAC) are widely used for anticoagulation. There have been many reports of vasculopathy in Vitamin K antagonist. However, data for NOAC is lacking. Our aim is to investigate the incidence of angina, myocardial infarction (MI) and chronic kidney disease (CKD) in patients who were on either warfarin or NOAC.

Methods: We enrolled 31,721 consecutive patients who were diagnosed with AF and treated for anticoagulation from the national Sample Cohort released by the National Health Insurance Service in Korea. 19,110 patients were on warfarin and 12,611 patients were on NOAC. These two groups were matched using propensity scoring method to adjust relevant risk factors including age, sex, co-morbidities and CHA2DS2-VASc score.

Result: We used propensity matched analysis (1:1) to match age, sex, previous history of stroke, diabetes mellitus, hypertension and CHA2DS2-VASc score. There were no significant differences in baseline characteristics between the two groups. Kaplan-Meier estimates showed that warfarin group had higher incidence of CKD whereas for angina episodes and MI there were no significant differences between the two groups (Figure 1). Multivariate analysis adjusted for clinical variables showed that warfarin group were at higher risk of CKD (OR: 0.56, 95% CI, 0.47-0.67, p<0.001).

Conclusion: Warfarin group had higher risk of CKD compared to NOAC group. Our data suggests that NOAC may have contributed beneficially with respect to lowering risk of adverse renal outcome compared to warfarin.