Peripheral artery disease contributes to more thromboembolic events than coronary artery disease in atrial fibrillation

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Introduction: Coronary artery disease (CAD) and peripheral artery disease (PAD) are two major presentations of atherosclerotic disease and polyvascular disease, a combination of CAD and PAD, is associated with increased risk of cardiovascular events. To investigate thromboembolic events among atrial fibrillation (AF) patients who have CAD, PAD and polyvascular disease.

Methods: The 247,064 AF patients were retrieved from a 13-year National Health Insurance Research Database in Taiwan. Ischemic stroke (IS), systemic thromboembolism (STE) and IS/STE were compared in three datasets. Dataset 1: Groups with CAD-only, PAD-only, with both CAD+PAD and without CAD/PAD; Dataset 2: Groups with PAD-only and CAD-only; dataset 3: Groups with either CAD or PAD and both CAD+PAD.

Result: In dataset 1: The incidence of STE and IS/STE were different in the four groups, of which was highest in those with both CAD+PAD and lowest in those without CAD/PAD in real-world conditions; In dataset 2: The PAD-only group had a significantly higher incidence of STE and IS/STE than the CAD-only group after propensity score matching (PSM) and across all levels of CHA2DS2-VASc; In dataset 3: patients with both CAD+PAD had a significantly higher incidence of STE and IS/STE than patients with either CAD or PAD after PSM and across most levels of CHA2DS2-VASc.

Conclusion: In AF patients with either CAD and/or PAD, the two conditions did not contribute equally to the risk prediction of IS/STE. AF patients with both CAD+PAD had a higher incidence of thromboembolic events than those with either CAD or PAD.