

Atrial fibrillation in peripheral arterial disease with coexisting coronary artery disease and diabetes mellitus: An intricate association not to be missed!

To the Editor,

We read the findings of the paper recently published by Stalling et al¹ with great interest. The authors have effectively presented the data regarding the burden and impact of coronary artery disease (CAD) and diabetes mellitus (DM) in patients with the peripheral arterial disease (PAD) at moderate stage. The authors also reported that the presence of CAD alone (odds ratio [OR] 1.85 and 1.23) or with DM (OR 3.12 and 1.76) were independent predictors of in-hospital and long-term mortality. Furthermore, they found DM alone (OR 2.23) and in combination with CAD (OR 2.19) as independent predictors of amputation. These findings importantly demonstrate the role of the rising burden of CAD and DM toward a higher incidence of PAD occurrence and worsened outcomes reported in recent literature. However, this report lacks data on an important comorbid condition, atrial fibrillation (AF), in this clinical scenario of PAD with or without CAD and DM.

The PAD population in this study was elderly (mean \pm SD years; 68.5 \pm 10.4) and had a high burden of CAD (25.3%) and DM (23.5%) which are the common risk factors also shared by AF.²⁻⁴ In addition, Wasmer et al reported that PAD/critical limb ischemia patients with AF had a significantly high burden of DM (40.8% vs 31.1%) and CAD (38.0% vs 23.0%) compared to non-AF patients. Furthermore, PAD has been reported as an independent predictor of incident AF (adjusted hazard ratio 1.29; 95% CI 1.17-1.42).⁵ Proietti et al in their meta-analysis reported that the presence of PAD was associated with a 31% increased risk of an incident AF.⁶ Concomitant occurrence of AF with PAD has been found to be a dangerous combination with an exponential increase in the risk of stroke (OR 1.71; 1.41), congestive heart failure (OR 1.93; 1.35), and cardiovascular mortality (OR 5.04; 2.08) in PAD patients with coexisting AF compared to PAD without AF⁵ treated with endovascular or surgically approach.⁷ Winkle et al have reported a significantly high all-cause mortality (7.7%) and cardiovascular mortality (5.6%) among PAD patients with AF compared to PAD without AF (2.5% and 1.6%, respectively; $P < 0.001$).⁴ In addition, they have also reported the presence of AF in PAD patients significantly increases the rate of lower limb amputation in comparison to those without AF (4.8% vs 2.1%, $P < 0.01$, respectively).⁴ Despite the sufficient evidence suggest the critical role of AF in predicting the survival, the authors did not include AF in addition to previous acute

myocardial infarction or stroke and revascularization (percutaneous coronary intervention or coronary artery bypass grafting) to predict short- and long-term all-cause mortality. Therefore, we believe data as regards the burden of AF among PAD patients with CAD and DM, and its impact on the short- and long-term outcomes in various subgroups would further provide detailed insights into this high-risk patient subset.


CONFLICT OF INTEREST

The authors declare no potential conflict of interests.

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