Predictors of atrial fibrillation following coronary artery bypass surgery: Increased waist circumference rather than increased body mass index?

Dear Editor,

We read with great interest the article by Tadic et al. [1], which evaluated the predictors of postoperative atrial fibrillation (POAF) after coronary artery bypass surgery (CABG). In this study, a body mass index (BMI) >30, hypertension, diabetes, hypercholesterolemia, high postoperative white blood cell count, as well as age and left ventricular segmental kinetic anomaly were found to be significant predictors of POAF.

In the population studied by Tadic et al., a high number of metabolic variables is significantly associated with POAF in the multivariate analysis. This may likely be related to the relatively young age of the cohort (mean age 60 years). Indeed, as previously published by our group, the metabolic syndrome (MetS) was strongly associated with POAF in the younger subset of patients [2]. In this study, we found that a BMI >30 was a significant predictor of POAF in older patients (age >55 years), whereas the MetS had a stronger association with POAF in younger patients. In line with these previous results, some of the components of the MetS have a strong impact on the risk for POAF in the fairly young population studied by Tadic et al.

It is unfortunate that Tadic et al. did not report the data of waist circumference (WC). Besides BMI, the body fat distribution is an important determinant of metabolic disturbances and is associated with adverse clinical events. To this effect, we reported that an increased waist circumference (WC) rather than an elevated BMI was associated with higher risk for POAF after CABG in middle-aged male patients [3]. We also found that patients with both increased waist circumference and elevated inflammation biomarkers, measured by either C-reactive protein or interleukin-6 (IL-6), were at a very high risk for POAF. From these results, we concluded that abdominal obesity rather than global obesity, as measured by the BMI, is a predictor of POAF. Besides, as it is likely that a combination of an increased WC and an elevated C-reactive protein or IL-6 level identifies a subset of subjects with an increased amount of visceral abdominal fat, we suggested that this fat depot may play a major role in promoting POAF. Hence, it is not the global amount of fat per se that predicts the risk of POAF but rather body fat distribution, which impacts on patient’s metabolic profile.

Finally, hypercholesterolemia has been found in the study of Tadic et al. to be associated with a high risk for POAF whereas there was a trend for a favorable effect of statins with regards to POAF occurrence (OR=0.84, p=0.09). The pleiotropic effects of statins have been underlined earlier [4]. Nonetheless, as patients with hypercholesterolemia are almost systematically prescribed with statin, it would have been very interesting to study the impact of hypercholesterolemia with and without statin treatment. Furthermore, it appears from the methods section that hypercholesterolemia has been defined as an increased preoperative cholesterol, regardless of the ongoing treatment. Consequently, it would have been interesting to know if patients with persisting hypercholesterolemia under statin have the same risk for POAF than patients with untreated hypercholesterolemia. These analyses should be performed in future studies.

Sincerely,

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