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Atrial Fibrillation-Related Outcomes [Letter]

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Dear editor

Atrial fibrillation (AF) is the most common symptomatic arrhythmia in clinical practice and causes serious consequences all over the world.[1,2] Although its pathophysiology is not fully clear, conditions such as advancing age, hypertension, diabetes, inflammatory diseases and obesity lead to the development of AF.[1–3]

Identifying individuals at higher risk of developing AF and related outcomes in the community could facilitate targeting of preventive interventions. In this context, i read the article titled "Association of Body Mass Index with Outcomes in Patients with Atrial Fibrillation: Analysis from the (JoFib) Registry[3]" published in your journal with great excitement. The authors aimed to evaluate the impact of obesity on the complications of AF in Jordanian patients to establish a proper prognosis. The authors compared AF patients with and without complications according to their clinical characteristics. The authors determined cerebrovascular accidents, acute coronary syndrome, major bleeding, systemic embolization and mortality as complication of atrial fibrillation. Researchers have conducted a useful study in the context of AF complications. However, there were some points I was curious about;

1. The authors determined major bleeding as a complication of AF. However bleeding is associated with use of anticoagulant drugs, not AF itself.[4] Additionally, AF pathophysiologically causes thrombosmolism due to uncoordinated and impaired atrial contraction and Virchow triad, but does not cause bleeding.[5] Furthermore, AF-related outcomes are reported in detail by the European Society of Cardiology 2020 and 2024 AF guidelines.[1,2] In the mentioned guidelines death, stroke, left ventricular dysfunction and heart failure, cognitive decline and vascular dementia, depression, impaired quality of life and hospitalization were reported as AF-related outcomes.
2. Pathophysiologically, thromboembolism-related disorders such as "cerebrovascular accidents, acute coronary syndrome, systemic embolization" develop as a result of the exact opposite mechanism of bleeding. On the other hand, although the same risk factor can increase the risk of both bleeding and thromboembolism, I think that the two opposite situations should be evaluated in separate models in order to find specific independent predictors. However, the authors attempted to predict both thromboembolism and bleeding-related outcomes in the same logistic regression model. Therefore, it is not clear from this model which risk factors will cause thromboembolism and which risk factors will cause bleeding.

In conclusion, bleeding in AF patients develops due to anticoagulant drugs and not to AF itself, and since thromboembolism and bleeding are opposite conditions, they should be predicted separately for a clearer understanding of the explanatory factors of both.

Disclosure

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