Differences in anticoagulation pattern, thrombotic and mortality risk in patients with atrial fibrillation and mid-range ejection fraction

Ivana Jurin[1]*, Marko Lucijanić[1], Anđela Jurišić[1], Zrinka Šakić[2], Sanda Sokol Tomić[1], Irzal Hadžibegović[1],

[1]University Hospital Dubrava, Zagreb, Croatia
[2]Health Center Zagreb East, Zagreb, Croatia

KEYWORDS: atrial fibrillation, bleeding, thrombosis.

CITATION: Cardiol Croat. 2021;16(1-2):59. | https://doi.org/10.15836/ccar2021.59

***ADDRESS FOR CORRESPONDENCE**: Ivana Jurin, Klinička bolnica Dubrava, Av. Gojka Šuška 6, HR-10000 Zagreb, Croatia. / Phone: 385-98-559387 / E-mail: ivanajurin1912@gmail.com

ORCID: Ivana Jurin, https://orcid.org/0000-0002-2637-9691 • Marko Lucijanić, https://orcid.org/0000-0002-1372-2040
Anđela Jurišić, https://orcid.org/0000-0001-8316-4294 • Zrinka Šakić, https://orcid.org/0000-0001-6616-2553
Sanda Sokol Tomić, https://orcid.org/0000-0002-4551-9231 • Irzal Hadžibegović, https://orcid.org/0000-0001-9139-5009

Introduction: The risk of thromboembolism in patients with atrial fibrillation becomes higher if they have comorbidities such as ischemic heart disease, hypertension, and diabetes.[1] The risk for cardioembolic complications has been linked to a reduced ejection fraction (rEF) in several studies and has been well known for decades. An ejection fraction of 40–49% is neither normal/pre- served (pEF) nor reduced, and it is termed mid-range EF (mrEF). It is increasing in prevalence and is associated with older age, non-cardiac comorbidities and higher rates of AF. This category was separated in recent guidelines, although associated risks and the potential therapy remain poorly understood. We aimed to assess stroke/systemic embolism, major bleeding and mortality risks in our cohort of non-valvular AF patients based on the presence of mrEF in comparison to rEF and pEF.

Patients and Methods: We studied 1000 consecutive patients who were admit- ted to our hospital due to non-valvular AF between 2013 and 2018.

Results: Patients with mrEF presented with older age ($P < 0.001$) and a higher frequency of arterial hypertension ($P = 0.001$) in comparison to both pEF and rEF patients. In comparison to pEF, mrEF patients were more likely to have diabetes mellitus ($P = 0.004$), lower HDL-cholesterol ($P < 0.001$) and lower estimated glomerular filtration rate ($P < 0.001$), significantly higher CHA2DS2-VASC score ($P < 0.001$), significantly higher HAS-BLED score ($P = 0.002$) and had a higher likelihood of receiving anticoagulant therapy, mostly warfarin ($P = 0.001$). In addition, mrEF patients had a significantly higher risk of thrombotic events (HR = 2.22; $P = 0.015$), death (HR = 1.71; $P = 0.005$) and composite endpoint of thrombosis, bleeding or death (HR = 1.65; $P = 0.003$) in comparison to pEF patients but did not significantly differ in comparison to rEF patients. There was no significant difference regarding major bleeding risk. Associations with clinical outcomes remained statistically significant in multivariate models independently of CHA2DS2-VASC.

Conclusion: Our findings support defining AF patients with mrEF as a subgroup with distinct clinical characteristics and increased risk for thrombotic events and death, irrespective of predetermined CHA2DS2-VASC risk.

RECEIVED:
December 6, 2020

ACCEPTED:
December 18, 2020

LITERATURE

1. Olesen JB, Fauchier L, Lane DA, Taillandier S, Lip GYH. Risk factors for stroke and thromboembolism in relation to age among patients with atrial fibrillation: the Loire Valley Atrial Fibrillation Project. Chest. 2012 Jan;141(1):147-153. https://doi.org/10.1378/chest.11-0862