Letter to the Editor

Comments on diabetes complications severity index (DCSI) in atrial fibrillation risk prediction

Erdi Babayigit, Bulent Gorenek *

Eskisehir Osmangazi University, Department of Cardiology, Eskişehir, Turkey

A R T I C L E   I N F O

Dear Editor,

We have recently read with great interest the article by Hu et al. [1]. investigated for risk stratification on patients with atrial fibrillation (AF) in type 2 diabetic population regarding to changes on adapted Diabetes Complications Severity Index (aDCSI) and CHA_2DS_2-VASc scoring system. We want to discuss here some important points about AF risk prediction in this special group.

As discussed in current European Heart Rhythm Association position paper chaired by Bulent Gorenek, diabetes mellitus (DM) is commonly associated with increased atherosclerotic CV diseases. DM also effects cardiac molecular signalling and structural remodelling which is called "diabetic cardiomyopathy" can cause arrhythmogenesis [2].

CHA_2DS_2-VASc scoring system is used worldwide in stroke risk production, which guides anticoagulation strategy [3]. This scoring system includes diabetes and diabetes associated comorbidities. aDCSI, presented here includes seven complications of diabetes, which reflect the severity of the disease. Although retinopathy, nephropathy, neuropathy and metabolic complications are only components of aDCSI; cerebrovascular, cardiovascular and peripheral vascular diseases are accepted as valuable risk factors in two scoring systems. Interestingly, retinopathy and neuropathy related AF risk is similar in AF and non-AF groups ($p = 0.23$ and $p = 0.63$, respectively) in the presented work. Moreover, as stated in the paper by Gorenek et al., the age-adjusted association of DM with incidence of AF is attenuated with adjustment after multiple risk factors like hypertension, cardiovascular comorbidity and obesity [2]. And, we believe that, main strategy should focus on control of comorbidities of DM such as blood pressure and weight control for prevention AF in diabetic population.

References

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[2] B. Gorenek, G. Boriani, G. Dan, et al., European Heart Rhythm Association (EHRA) Position Paper on Arrhythmia Management and Device Therapies in Endocrine Disorders, Endorsed by Asia Pacific Heart Rhythm Society (APHRS) and Latin American Heart Rhythm Society (LAHRS), 2018 895–896, https://doi.org/10.1093/europace/euy051.

[3] Paulus Kirchhof, Stefano Benussi, Dipak Kotecha, Anders Ahlsson, Dan Atar, Barbara Casadei, Manuel Castella, Hans-Christoph Diener, Hein Heidbuchel, Jeroen Hendriks, Gerhard Hindricks, Antonis S. Manolis, Jonas Oldgren, Bogdan Alexandru Popescu, Ulrich Schotten, Bart Van Putte, Panagiotis Vardas, ESC Scientific Document Group, 2016 ESC guidelines for the management of atrial fibrillation developed in collaboration with EACTS, Eur. Heart J. 37 (38) (2016) 2893–2962, https://doi.org/10.1093/eurheartj/ehw210 (7 October).

* Corresponding author at: Eskişehir Osmangazi Üniversitesi, Tıp Fakültesi Kardiyoloji Anabilim Dalı, Meşelik Kampüsü Eskişehir, Turkey.
E-mail address: bulent@gorenek.com (B. Gorenek).