Authors’ reply

Sir,

We thank the authors for their interest in our article[1] and for highlighting the issue of anticoagulation for atrial fibrillation (AF) in children with valvular heart disease (VHD). There is little doubt that AF independently increases the risk of stroke across all age groups, however, the AF-related stroke incidence varies.[5] The presence of concomitant VHD, regardless of the disease type and severity, further amplifies the risk of stroke and thromboembolic events in AF.[2,3]

There are no published studies in pediatric patients, specifically addressing the risk of AF in VHD or the issue of anticoagulation in atrial arrhythmias. An important explanation for the lack of data is that AF is quite rare in the pediatric population, unlike in adults. Therefore, management experience from the adult literature is used as a surrogate and is extrapolated to the pediatric age group.

There has been considerable heterogeneity in the definition of valvular and nonvalvular AF, and the definitions have changed with successive editions of major guidelines. A consensus[4] published in 2014 defined nonvalvular AF as AF in the absence of prosthetic mechanical heart valves or hemodynamically significant valve disease, while the term “nonvalvular AF” was no longer used in the recent update.[5] AF evidently leads to an increased risk for thromboembolism in patients with mitral stenosis, but there are limited data for other valvular diseases. There are currently no specific recommendations for thromboembolic prophylaxis in patients with AF and mitral or aortic regurgitation.

Recent guidelines reiterate the assessment of stroke risk using the CHA DS -VASc score for patients with nonvalvular AF.[5] Although the data on the use of CHA DS -VASc score for anticoagulation in AF in children are sparse, the risk of stroke with AF in children is very low as per the scoring system. It needs to be highlighted that the CHADS DS -VASc score was developed for patients with nonvalvular AF, and hence, some studies suggested excluding patients with valve disease, particularly rheumatic mitral valve disease, for risk assessment using the CHADS DS -VASc score.[2,6] Darby et al.[3] recommended the use of systemic anticoagulation in all patients with rheumatic valvular disease with AF, unless there is a contraindication. Nonetheless, the recent guidelines recommend the use of CHA DS -VASc score for deciding anticoagulation therapy in patients with AF and mitral or aortic regurgitation based on post hoc subgroup analyses of large randomized controlled trials.[7]

The 2017 European guidelines for the management of VHDs are silent about the use of scoring system when deciding anticoagulation in this population, highlighting the heterogeneity in the recommendations on the issue. The authors mention that novel oral anticoagulants (NOACs) should be considered as an alternative to Vitamin K antagonists (VKAs) in patients with aortic stenosis, aortic regurgitation, and mitral regurgitation based on post hoc subgroup analyses of large randomized controlled trials.[7]

As explained above, the statement in the current guidelines[1] is based on the conflicting evidence available from the studies in the adult population. The use of VKAs is reasonable in children with AF and mitral or aortic regurgitation. However, we agree that the “decision to anticoagulate” should be individualized in children and prospective randomized controlled trials are needed to formulate risk stratification system to guide the use of anticoagulation in this pediatric subset.

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