

## Anticoagulation for atrial fibrillation in children; one size doesn't fit all!

Sir,

With great interest, we read the recently published consensus article on “Indian guidelines for management of congenital heart disease” in your prestigious journal.<sup>[1]</sup> Although we commend the authors for their comprehensive approach, the following issues are worth considering regarding therapeutic anticoagulation for atrial fibrillation (AF) in children with valvular heart disease.

The authors suggest using anticoagulation in all cases of mitral and aortic regurgitation in the presence of AF (*vide section* “the role of drug therapy in mitral and aortic regurgitation”). This also finds a place in an abridged secondary publication in Indian Paediatrics, page no 155, Volume 57\_February 15, 2020. This statement is not based on any evidence-based study and looks like a consensus statement by the authors.

There is little doubt if anticoagulation therapy is effective in reducing stroke risk in AF. However, there is insufficient evidence for a blanket/universal anticoagulation strategy for patients with AF in nonvalvular etiology or any valvular heart diseases except mitral stenosis and metallic prosthetic valves. Conventionally, many trials of anticoagulation for AF for stroke risk estimation have excluded this population.<sup>[2]</sup>

Recent guidelines recommend the use of CHA<sub>2</sub>DS<sub>2</sub>-Vasc score in mitral and aortic regurgitation for a tailored decision making except in those with moderate-to-severe mitral stenosis and prosthetic valves.<sup>[3]</sup> As there are no enough data on the use of CHA<sub>2</sub>DS<sub>2</sub>-Vasc score for anticoagulation in AF in children, we will have to extrapolate the adult patient data to pediatric population. In a patient with AF and a CHA<sub>2</sub>DS<sub>2</sub>-Vasc score of 0, the risk to benefit ratio rarely favors anticoagulation. Anticoagulation therapy needs to be considered in patients with CHA<sub>2</sub>DS<sub>2</sub>-Vasc score of 2. Thus, the risks and benefits of anticoagulation therapy and the important issues of compliance in children need to be discussed in detail with parents and caretakers for a shared decision-making. This is because children are more likely to get injured consequent to their more active lifestyle and participation in sports. The risk of fatal internal bleeding is much more when it comes to contact sports and anticoagulation.<sup>[4]</sup> Moreover, restriction of physical activity is not routinely recommended in children to encourage and ensure proper physical growth and psychomotor development. We would also like to

bring into notice that the percentage of the pediatric population who are in target therapeutic anticoagulation range despite proper monitoring is very less, and until now, there is no documented evidence to use novel anticoagulation in this subset of population.

Let our children be more physically active. Risk stratification for “decision to anticoagulate” in AF will avoid unnecessary health-care expenditure and the untoward hassles of anticoagulation, especially when there is no enough evidence on the absolute benefit of anticoagulation in this subgroup.<sup>[5]</sup> We need head-to-head prospective randomized controlled trials to address this issue.

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### Conflicts of interest

There are no conflicts of interest.

**Sanjeev Hanumantacharya Naganur, Jyothi Vijay,  
Parag Barwad**

Department of cardiology, Postgraduate Institute of Medical Education and Research, Chandigarh, India  
E-mail: jyothims09@gmail.com

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