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Letter to Editor

A Granular Vision of the Predisposition to Arrhythmias Following Cardiothoracic Surgery

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Dear Editor,

The randomized controlled trial (RCT) by Tharra *et al.*, evaluating the impact of glucose-insulin-potassium (GIK) chloride, that is, GIK infusion on arrhythmias following cardiothoracic surgery, has been read with keen interest.[1] Given the index research features a subject of significant clinical value, elaborating on the contextual intricacies would certainly benefit the Journal readership.

Of note, the authors do not account for some relevant extracardiac factors such as obesity, history of stroke, and chronic obstructive pulmonary disease, all of which have been linked to an accentuated predisposition to post-operative arrhythmias after cardiac surgery, as outlined in a narrative review on the topic by Peretto *et al.*[1,2] Moreover, with almost half of the post-operative arrhythmic burden in the RCT represented by atrial fibrillation (AF), the absence of well-studied AF risk scores like the CHA_2DS_2-VASc in the index research is equally difficult to overlook.[1,3] A 2020 meta-analysis by Chen *et al.*, having analyzed 12 studies and 18,086 patients, delineate CHA_2DS_2-VASc score as an independent predictor of post-cardiac surgery AF (odds ratio: 1.46; 95% confidence interval: 1.25–1.72; $I^2 = 88\%$, $P < 0.01$).[3]

Despite the fact that the Tharra *et al.* study participants were randomized to either receive or not receive GIK, it is still believed that presentation of the pre-operative potassium levels in the study could have added an enhanced lucidity to the findings.[1] The former becomes pertinent when independent researchers like Putri *et al.*, go on to reveal pre-operative serum potassium levels of <3.9 mmoL/L to predict post-operative AF with an area under the curve of 0.657 (95% confidence interval: 0.516–0.799, $P = 0.03$) and a sensitivity, specificity of 65% and 67%, respectively.[4] Finally, it also remains to be discerned as to why the authors did not chose to include vasoactive-inotropic score in their RCT, which although they discuss as a study limitation, leaves obvious gaps in the sound comprehension of the patients' overall post-operative hemodynamic status.[1,5]

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