The Cardiothoracic Surgeon

LETTER TO THE EDITOR

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Response to "Postoperative atrial fibrillation after thoracic surgery: addressing risk factors and outcomes"—a letter to the Editor

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To the Editor,

We are writing in response to the article "Postoperative atrial fibrillation after thoracic surgery (PoAF): risk factors and outcome" by Valentina et al., published on September 21, 2023. Firstly, I would like to commend the authors for their insightful research on assessing the risk factors for and the consequences of PoAF in patients undergoing thoracic surgery for lung cancer antecedent to the COVID-19 pandemic, also allowing at least 12 months of follow-up.

PoAF, in fact, due to its close temporal correlation with the surgical intervention, is an event triggered by surgery-induced stress, usually self-limiting and transitory [1]. PoAF is relatively frequent after thoracic surgery, although its incidence is lower on average (10–20%) compared to cardiac surgery due to the better cardiac status of non-cardiac surgical patients [2].

The article published by Valentina et al. [3] provides a well-organized and systematic approach that advanced age and open surgery are independently associated with an increased risk of PoAF in lung cancer surgery and left atrial enlargement association. The study mentions previous research, showing other risk factors, such as male gender, history of heart disease, more advanced cancer stages, postoperative serum potassium, and transfusions.

While the study by Valentina et al. provides significant data through analysis, showcasing the multifactorial dependence, it could have included diverse populations and lifestyles. This would have helped to assess and treat people according to their specific requirements. Additionally, the paper could have discussed post-discharge risk in patients and any complications that might occur beyond the mean follow-up period. Rena et al. demonstrated that the vast majority of PoAF resolved after hospital release, while in a study by Amar et al., 50% of episodes of PoAF spontaneously converted to sinus rhythm in less than 24 h [4].

While the study claims an absence of echocardiogram details of the patient to be used for studies, there is significance of such findings to understand outcomes. Hence, despite the prevalence of a strong correlation between echocardiogram findings, the size and function of the left atrium have been studied but without ECG data. A positive correlation was found between PoAF and LA maximal volume, atrial pre-contraction volume, active stroke volume, expansion index, and volume index. Studies also showed a negative correlation between the LA total emptying fraction and the LA passive ejection fraction. Hu et al. analyzed changes with transesophageal echocardiography and found that Global Longitudinal Strain (GLS;T2) and Atrial Global Longitudinal Strain (AGLS%) were independent predictors of PoAF [1].

I highly appreciate that the authors provided substantial data and subsequent discussions, including univariable ($p=0.08$) and multivariable analysis of age (OR 1.089 per year, 95% CI 1.039–1.141, $p<0.001$) and open surgery (OR 2.07 vs. VATS, 95% CI 1.0–4.29, $p=0.047$) [3]. However, future studies and meta-analyses are required to gain further clarity on these intriguing results.

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The findings of this study contribute to our understanding of PoAF consequent of thoracic surgery and have implications for clinical practice. I believe that this research will stimulate further investigations and discussions within the thoracic surgery community.

Thank you for considering this Letter to the Editor for publication. We appreciate the opportunity to contribute to the scientific discourse surrounding PoAF management.

Abbreviations

PoAF	Post-operative atrial fibrillation
LA	Left atrium
GLS	Global longitudinal strain
AGLS	Atrial Global longitudinal strain
ECG	Echocardiogram

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