Review of: "Effect of Tocovid - a Tocotrienol-rich Vitamin E - in Mitigating Post-Operative Atrial Fibrillation (POAF) after Coronary Artery Bypass Grafting (CABG) Surgery: A Double-blind Randomised Controlled Trial"

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Potential competing interests: The authors declared that no potential competing interests exist.

This topic is very close to me, and I have read this article with great pleasure.
This study is really superbly planned and conducted as an Investigator Initiated Research. The advantages of such studies are that researchers do not have any conflict of interest. And they don't benefit financially from pharmaceutical companies. Therefore, these studies are very unbiased.

We have familiarized ourselves with the methodology in detail and we have no questions.
Although from the point of view of cardiac surgery, for the purity of the experiment, it is better not to include patients with mitral valve interventions. To our mind it's common knowledge that the mitral valve is very associated with AF. Therefore, surgery on the mitral valve dramatically increases the probability of developing POAF.
Although randomization partially eliminates the influence of confounders (confounding factors), mitral valve surgery and the history of AF may turn out to be a stronger factor in the genesis of AF than the studied antioxidant effect of vitamin E.

In our opinion the authors applied the correct statistical analysis and it is still not clear why they described quantitative data using mean ± standard deviation? There is clearly an abnormal distribution of data, since SD is almost equal in value to mean, and sometimes even greater than it. For example (Table 8): Duration in ICU (mins) 1722.50± 2648. This is mathematically incorrect. So, it turns out that the Duration in ICU was with a negative value?
It is necessary to use the interquartile range (Q1;Q3) and use only nonparametric methods.

We also agree with some of the comments of colleagues who viewed this article earlier:
Jian-Hua Lin - https://doi.org/10.32388/YQ0UNU
«Palm oil may contain something which has similar effect in Vit-E, therefore, authors cannot see the effect of VitE».
The authors should probably mention this in the article in the "Discussion" section.

We would like to highlight the authors' approach to Sample size estimation separately. The authors calculated this based on the results of their previous study [https://doi.org/10.12688/f1000research.13244.2], which showed that the frequency of POAF in their population is 28.7%.

In our opinion, it is very important to use the characteristics of your population, your country and your region. This data may be related to racial and genetic characteristics. For example, in our similar study, the frequency of POAF in the placebo group was observed at very similar frequencies - 29.4% [https://doi.org/10.3390/jcm11051387].

In general, the conducted research and the article itself are very high-level, and in our opinion, carry very important information for cardiac surgery. The authors explained the problematic aspects related to the half-life of the drug, so that other researchers who wish to reproduce something similar would already be aware.