

## Peer Review File

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### Reviewer A

The role of neutrophil extracellular traps (NETs) has been well explained as a predictor of risk calculation for cardiac surgeries. The association of NETs and atrial fibrillation was well demonstrated in the discussion and figure 2.

**Reply: We appreciate your comment.**

### Reviewer B

In the current study, the authors attempted to link NETosis and activation of the intrinsic coagulation system in patients undergoing CPB for aortic valve and/or ascending aorta replacement, leading to “delayed” post-operative atrial fibrillation (AF).

In summary, the authors reported the NETs and dsDNA are increasing at different time post-CBP procedure and even more in patients developing AF (vs non-AF) at day 3 which is somewhat in agreement with the literature.

The link with the coagulation cascade (HMWK, prekallikrein, and activated factor XXIIa) is far less convincing and confusing.

At least, the authors did try to link NETosis and the coagulation cascade in their conclusions.

Specific comments:

The authors should provide corresponding data for all biomarkers from aged-matched healthy volunteers, in such, to better delineate what are the expected basal values. From this, we know the basal values from the patients, but how do they compare from healthy volunteers?

**Reply: Following advice, we added reference ranges for all biomarkers and compared them with patients' circulating markers measured before surgery.**

**Changes in the text: we added relevant information to the text as follows (see Page 8, line 137-139, Page 10, line 193-197 and supplementary table 1)**