

## Peer Review File

Article information: <https://dx.doi.org/10.21037/jtd-23-1582>

### Reviewer A

**Comment 1:** This is an important study with a very significant clinical question.

Please provide information about the randomization of these patients? Were the patients or investigators blinded? How were patients recruited into the two groups? What was the criteria for being put in one or the other group?

**Reply:** Thanks for the reviewer's suggestion. This is a single-center observational study with non-randomized and non-blinded selection of anticoagulants, which were jointly decided by cardiologists and patients after discussion. Therefore, we compared the baseline differences between the two groups and adjusted significant risk factors by logistic regression model, including gender, smoking status. This adjustment ensured a more reliable comparison of outcomes between the two groups (Table 2-4).

### Reviewer B

**Comment 1:** Single center prospective data with few patients makes any conclusion from this study not very meaningful but merely a direction towards further large scale studies.

**Reply:** Thanks for the reviewer's suggestion. Due to the low incidence of LV thrombosis, we have not been able to include a large number of cases from other centers. We will continue to follow up patients to obtain long-term outcomes and actively contact with other centers to jointly explore the prevention and therapy of LV thrombosis.

**Comment 2:** Only DOAC compared was dabigatran and rivaroxaban. Apixaban has a better bleeding profile as shown in other studies. Results might have been even different if some of those agents were used.

**Reply:** At the time of the study (January 2018 to January 2022), edoxaban and apixaban have not been introduced to our center. We will include data from more centers and more agents to explore the differences between different DOACs in future studies.

**Comment 3:** While There is a growing body of evidence that is supporting use of DOACs in LV thrombus, this study adds to the literature but still calls for a large scale prospective study prior to making it to the guidelines.

**Reply:** Thanks for the reviewer's suggestion. We added the above content in the discussion section.

“There is a growing body of evidence that is supporting use of DOACs in LV thrombus. However, it remains controversial whether DOACs have an anticoagulant effect comparable to warfarin in patients with LV thrombus, and previous studies have also shown conflicting results. This study adds to the literature, but large prospective studies are still needed before guidelines can be included. ”(Lines 170-174)

**Comment 4:** LV thrombus with anterior STEMI might be different from LV thrombus in non-ischemic cardiomyopathy since resolution of wall motion after revascularization and with medical management resolves the milieu for LV thrombus and helps with complete resolution of it. Please comment on this as this may bias the study in one way or the other.

**Reply:** Thanks for the reviewer's suggestion. We added the above content in the discussion section.

“It's worth mentioning that the formation mechanism of LV thrombus in anterior STEMI may be different from that in non-ischemic cardiomyopathy, as the improvement of ventricular wall motion after revascularization and medical management facilitate the resolution of LV thrombus. In this study, the proportion of patients with prior MI was 50-60%, and there was no significant difference between the two groups. However, future studies are needed to investigate the mechanism of LV thrombus caused by different etiologies and the differences in medicine efficacy. ” (Lines 194-201)

**Comment 5:** Line 91 has an extra space. Plz correct. Line 166 you have written 'thrombusin' , plz correct. Line 184 mis spelled as 'apoxaban'. Line 195, it is interesting that endocrinologist would chose anticoagulation regimen. Please double check (line 195).

**Reply:** Thanks for the comments. We have revised all of the above.

**Reviewer C**

**Comment 1:** Please correct following refusals

Line 148, please put the comma instead of the point

Line 166, please correct "LV thrombus" in instead of "LV thrombus/in"

Line 177, please delete the point before references 15,16

Line 193, after "as a single-center obserbational cohort study", please put the comma instead of the point

**Reply:** Thanks for the comments. We have revised all of the above.