

Peer review file

Article information: <http://dx.doi.org/10.21037/jtd-20-3350>

Reviewer A

Comment 1: This is a single center study involving patients hospitalized with acute anterior myocardial infarction in a hospital from 2012-2020. The incidence of LVA was around 15%. Although the definition of LVA in the method section was based on angiographic findings and references CASS study, echocardiography was the primary mode of diagnosis used in this current study. This could explain the higher incidence of LVA in the current study, ie due to increased utility of less invasive tools to diagnose these patients. Authors can consider adding this in their discussion.

Reply 1: We appreciate the suggestion. In the revised manuscript, we added the explanations for an increased incidence of LVA in DISCUSSION.

Changes in the text: Page12/Line252-Page13/Line254.

Comment 2: The current study also focused on anterior myocardial infarction, which is associated with higher incidence of LVA. This was addressed in the discussion.

Reply 2: Thanks for pointing it out. We definitely agree that focusing on patients with acute anterior myocardial infarction resulted in higher incidence of LVA. We have addressed it in DISCUSSION (please see Page12/Line249-251).

Comment 3: Syntax score algorithm was used to assess the extent of disease and revascularization completeness. Can authors clarify if they solely used syntax 1 score (which is angiography based only) or syntax 2 score (which constitutes clinical variables as well)? Please clarify this in the method section.

Reply 3: We couldn't more agree with the reviewer's constructive suggestion. We used SYNTAX score I in the current study, since a lot of clinical variables in SYNTAX score II were overlapped with the baseline characteristics shown in Table 1. To precisely decipher the results, we have rephrased the relevant sentence in METHODS according to the reviewer's advice.

Changes in the text: Page8/Line157.

Comment 4: LVEF was listed as a predictor for LVA, however there are two confusing pieces of data in this study: the multi-variate analysis plot is showing that LVEF was favoring non-LVA, while table 1 showed that the lower LVEF was associated with LVA. To be more clear, authors can consider adding "normal LVEF" to the multi-variate analysis to make it clear that this is favoring non-LVA.

Reply 4: We apologize for the confusion and thank the reviewer's help to clarify it. We have revised Figure 3 and rephrased related description in the multi-variate analysis.

Changes in the text: Page3/Line49-50, Page23/Figure3.

Comment 5: Can authors describe what was the anti-platelet used in patients on triple and dual therapy? Clopidogrel or Ticagrelor?

Reply 5: According to the reviewer's suggestion, we clearly pointed out the medication about dual anti-platelet therapy and triple antithrombotic therapy in the revised manuscript.

Changes in the text: Page7/Line133-136, Page7/Line139-Page8/Line145.

Comment 6: Authors mentioned that 12% of LVA patients were on triple therapy, and this could explain the higher bleeding rates seen in this group. Did authors perform a sub-group analysis comparing triple therapy versus single anti-platelet combined with anti-coagulation agents?

Reply 6: Thanks for the kind advice. We didn't perform a sub-group analysis because the small sample size of sub-group may lead to bias. According to the guidelines (eg. Eur Heart J. 2019;40:87-165.), dual anti-platelet therapy is recommended for 12 months for patients with high ischemic risk. Almost all of the acute myocardial infarction patients with ventricular thrombus in this study were administered with triple anti-thrombotic therapy (dual anti-platelet therapy combined with anti-coagulation agents) instead of single anti-platelet combined with anti-coagulation agents after primary PCI. In our previous study, we found LVA was an independent predictor of ventricular thrombus (J Thorac Dis. 2018 Aug;10(8):4912-4922.). That's the main reason why triple anti-thrombotic therapy was more available in the LVA group.

Comment 7: Can authors describe how compliant patients were? Those on triple therapy and those on dual therapy? Do you have the percentage of patients who were compliant? Was INR checked as part of follow up on compliance?

Reply 7: This suggestion is very reasonable and helpful. All the patients enrolled in the study guaranteed good compliance. Those lost follow-ups were excluded in the current study. Follow-up data including TTR (time in therapeutic range) of warfarin were obtained by specifically trained research staff. We clearly pointed out the information in our revised manuscript.

Changes in the text: Page6/Line111-115, Page26/Table1.

Comment 8: Authors mentioned INR goal for triple therapy was 1.5-2, do authors have data on the actual INR measurements in these patients? Was INR checked as part of follow up on compliance?

Reply 8: We appreciate the sincere concerns of the reviewer. We reanalyzed the follow-up data and added TTR of warfarin in Table 1.

Changes in the text: Page26/Table1.

Comment 9: There was a recent large study on this topic – Vallabhajosyula S et al. Am J Cardiol. 2020 Oct 15;133:32. I would recommend the authors reference this study and compare and contrast their work to this study to provide context.

Reply 9: We sincerely appreciate the reviewer's constructive suggestions for improving the manuscript. In our revised manuscript, we referenced this study and compared their work with ours.

Changes in the text: Page12/Line242-244, Page14/Line283-296.

Reviewer B

Comment 1: Please clarify the factors included in univariate analysis.

Reply 1: Thanks for your expert comments. In the revised manuscript, we clarified the factors in METHODS.

Changes in the text: Page9/Line182-184.

Comment 2: Reduced LVEF must be the result of LVA, not a predictor of LVA.

Reply 2: Thanks for pointing it out. We totally agree with the reviewer that impaired LVEF is the result of LVA. We aimed to find out the clinical factors that may correlate to LVA. For patients with acute anterior myocardial infarction, these predictors including LVEF may help the clinicians evaluate the probability of LVA formation, identify high-risk patients, and prevent LVA at an early stage. The purpose of this study wasn't to demonstrate the causations between them. In our revised manuscript, we emphasized the clinical value of predictors in DISCUSSION.

Changes in the text: Page13/Line270-272.