

## Peer review file

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### Reviewer A

**Comment 1:** The author's main aim was to compare mid-term outcomes of redo cardiac surgery for isolated tricuspid valve surgery due to tricuspid regurgitation (TR) according to nature of first surgery: left-sided valvular surgery versus congenital heart disease surgery.

The small sample size limits the statistical power and the results should be cautiously interpreted. Given that limitation of extrapolating results and even of internal validity, a case-series report, describing patient's characteristics and outcomes could be more appropriate. It would be interesting to report how many patients in the same period presented with severe TR after cardiac surgery without being considered to redo surgery.

**Reply 1:** As the reviewer wisely pointed out, the major limitation relative to our study is the small sample size. However, isolated tricuspid valve surgery represents an infrequent procedure in the field of cardiac surgery. A multicentric study with longer inclusion period will be warranted. It's an important issue to report the cases in the same period with severe TR after cardiac surgery without being considered to redo surgery. They were either asymptomatic and followed up in outpatients' department or too ill to undergo conventional tricuspid surgery; while the former was not recorded in our database. We are afraid of not being able to provide exact number with respect to this type of patients. In contrast, we added the protocol of patients' inclusion and exclusion, hoping the supplementary data could be helpful for understanding the characteristics of patients referred for ITVS.

**Changes in the text:** we added a flow diagram in the revised manuscript to illustrate the protocol of patients' inclusion. (See annex, Figure 1)

**Comment 2:** The title, and other expressions along the text, could be interpreted as redo tricuspid valve surgery instead of redo cardiac surgery due to tricuspid valve pathology and only 11 patients had previous tricuspid valve surgery. I suggest:

“Isolated tricuspid valve surgery after congenital- versus left-heart disease surgery: mid-term outcomes”.

**Reply 2:** We quite agree with the reviewer’s suggestion and we change the title exactly as suggested.

**Change in the text:** The title of our paper is now “Isolated tricuspid valve surgery after congenital- versus left-heart disease surgery: mid-term outcomes” (see Page 1, Line 1).

**Comment 3:** The abstract is generally well-structured, but a structured aim is missing.

**Reply 3:** Indeed, we did not formulate a structured aim in the background section of the abstract.

**Changes in the text:** We added the aim of our study in the abstract (see Page 2, Line 24).

**Comment 4:** Introduction a. The introduction states clearly the relevance of the topic  
b. Mid-term outcomes evaluated should be enounced at aims, i.e. all-causes mortality and MACCEs.

**Reply 4:** It’s definitely better to enounce the well-defined endpoints of study in the introduction.

**Change in the text:** we made clear the endpoints of our study in the introduction (see Page 3, Line 74).

**Comment 5:** Please add Methods subtitle before Study Design a. I suggest to define early in inclusion criteria: post-cardiac surgery severe TR, since patients with chronic severe TR without previous cardiac surgery were not selected to this study.

b. Line 107 Categorical variables are presented also by numbers (absolute frequency).c. The authors stated they discarded missing values. Considering the small sample size it is important to report the number of missing values. d. Line 76 typo “patients”.

**Reply 5:** We are grateful to the reviewer for his meticulous work. We added the omitted words, modified the order of inclusion criteria and corrected the typo. With regard to the missing values, it concerned mainly some echocardiographic data of follow-up in 2 or 3 patients, we added the number of available patients for each parameter in the tables.

**Change in he text:** We added “Methods” subtitle (see Page 3, Line 79) and “Number” for the presentation of categorical variables (see Page 4, Line 134), underlined the history of cardiac surgery in the inclusion criteria (see Page 3, Line 87), corrected the

typo (see Page 3, Line 91), and added the number of patients for each variable in the tables (see Page 10-12, Table 1-3).

**Comment 6:** Results a. Table 1: typo NYHA class IV have a comma instead of a dot; Euroscore II and LV function, in percentage, please report the unit inside brackets and don't repeat % symbol with values. b. Please standardize tables regarding the use of commas or dots, representing units inside brackets without repeating after values, stating n (%) or mean±sd or median (Q1-Q3). c. Table 1: both for NYHA class and pre-op RV dysfunction, more than 20% of cells have expected values less than 5, the authors should replace the Chi-square by Fisher exact test. d. Table 2: aortic clamping time variable should include only patients with aortic cross clamping, moving the minimum from zero minutes. e. Table 3: NYHA class at 3 months and MACCEs have more than 20% of cells with expected values less than 5, the authors should not use Chi-square test. f. Figure 1A and 1B are the same, please correct it.

**Reply 6:** we made the modifications as suggested. With regard to the statistical methods, we did use Fisher exact test for categorical variables when expected values of more than 20% of cells were less than 5, as the reviewer wisely pointed out.

**Change in the text:** we corrected the typo, standardized the tables regarding the use of dots and the form of data presentation (see Page 10-12, Table 1-3).

**Comment 7:** Discussion a. Discussion should start with a general overview of the main findings of the study b. Repeated sentences from introduction section should be removed c. Discussion section should report summary of results according to study objectives. d. Comparisons between redo median sternotomy with right anterior thoracotomy or replacement versus repair don't constitute aims of the study and the authors should not report new results at discussion section.

**Reply 7:** We are agreed with the reviewer regarding the aforementioned points.

**Change in the text:** We added a paragraph to state the main findings of the study in the beginning of discussion (see Page 6, Line 206), removed the repeat sentences from introduction section (see Page 7, Line 222) and removed supplementary results (see Page 7, Line 271, Line 278).

**Comment 8:** English needs general revision.

**Reply 8:** We made our manuscript checked by a native English-speaking expert.

**Change in the text:** all of the manuscript.

**Comment 9:** Please replace digits by full form at sentences beginning (e.g. line 24: Fifty-eight patients, instead of 58 patients, line 112 Two-sided, instead of 2-sided).

**Reply 9:** We made the correction as suggested.

**Change in the text:** We replaced digits by full form at sentence beginning (see Page 2, Line 27, Page 5, Line 145).

## **Reviewer B**

**Comment 1:** The authors performed retrospective analysis of redo Tricuspid valve surgery this is a challenging population and to look for these cases and publish this is

commendable.

**Reply 1:** Thanks.

**Comment 2:** The article needs proof reading for grammatical corrections.

**Reply 2:** We made our manuscript checked by a native English-speaking expert.

**Change in the text:** all of the manuscript.

**Comment 3:** Although the sample size is small, regression analysis would outlay some of the underlying risk factors in the different groups.

**Reply 3:** We performed univariate Cox regression analysis which identified some potential predictors for outcomes, but the multivariable Cox regression analysis failed to identify any independent factors predicting primary and secondary endpoints. They were both available in the revised version.

**Change in text:** we added univariate and multivariable Cox regression analyses (see Page 5, Line 143; Page 6, Line 196; Page 13, Line 391-397).