Reviewer's report

Title: Is Mitral Valve Repair Superior to Replacement for Chronic Ischemic Mitral Regurgitation with Left Ventricular dysfunction?

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Reviewer: Zhi-Gen Jiang

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Review Comments on
Qiu et al. “Is Mitral Valve Repair Superior to Replacement for Chronic Ischemic Mitral Regurgitation with Left Ventricular dysfunction?”
The Journal of Cardiothoracic Surgery “1110237170378449_article”

Using retrospective review of 218 consecutive cases in a single surgical setting over 8 years, this study compared pre- and post-operation conductions, operation and associated procedures and the prognosis between mitral valve repair (MVP) and replacement (MVR) as treatments for ischemic mitral regurgitation (IMR) with left ventricular dysfunction (LVD). This is an important study to clarify a controversy whether the two choices of mitral valve treatment yield different benefits and survival rates, and to determine which patients will benefit more from a particular type of operation. The data reviewed are extensive and pertinent. However, a number of issues remain to be addressed; especially, an extensive English language editing is needed to improve readability and impact of this report.

Main concerns:

1. Unconventional use of English, grammar errors, a lot of abbreviations (many are undefined at the first appearance) and unclear description of some important points throughout the manuscript have made the reading very difficult and severely blurred the impact of important findings. For instance (Abstract, line 16), instead of “After logistic regression, independent predictors of survival was associated with age of 75 years or older and highly associated with preoperative renal insufficiency and LVEF < 30%.” I would rewrite as “Logistic regression analysis revealed that poor survival was associated with old age (#75), preoperative renal insufficiency and low left ventricular ejection fraction (< 30%).” I suggest the authors get help from English language expert and include a list of abbreviations.

2. Abstract line 10-11: “At discharge, Left ventricular end-systolic and end-diastolic diameter and left ventricular ejection fraction (LVEF) were more decreased in the MVP group versus that seen in the MVR group (P<0.05), …” is misleading. It should be “ … were improved more in the MVP than MVR group (p<0.05), …”. If LVEF was decreased by the surgery, that’s too bad!

3. Abstract line 19-21: The last sentence sounds not very meaningful. You may
change it to “Early results of MVP treatment seem to be satisfactory, but several lines of data indicate that mitral valve repair provided less long-term benefit than mitral valve replacement in the LVD patients.”

4. Conclusion in the abstract and body text should be rewritten since it does not match the aims of the study.

5. It is expected that the surgical and non-surgical techniques, experience and the hospital facility were improving along the 8 years. Therefore, yearly distribution of patients of both types of MV surgery should be displayed and statistically analyzed in a graph so that the fairness of comparison can be better assessed.

6. Discuss how could you substantially improve survival rate than that reported previously[11].

7. Discuss patient selection feasibility for mitral valve repair versus replacement.

8. Elaborate “the acuity of the presentation” and “the pathological mechanism” in the last sentence of Discussion if you can. Otherwise, the sentence is not very meaningful.

Minor errors:

1. Some contents do not match the section headings. You need either to change the headings (e.g., change “Definitions” to “Patient Selection in the Study”, “Surgical Techniques” to “Surgical and Associated Procedures”) or to reorganize the contents (e.g., sections in Discussion).

2. Check carefully with typos (e.g., space between sentences, etc) and grammatical errors (e.g., “undergoing” at many places should be replaced by “undergone”).

3. What is “10 participating” in Acknowledgements?

4. Table. 1. Line 1: Number should be Total number of patients. Elaborate in footnote what is “left main disease” and what is 3-vessel disease. Include a reference for “Carpentier classification”.

5. Page 4: define and include a reference for “NYHA functional class”.

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

'I declare that I have no competing interests'