

Point-to-Point Response to Reviewers' and Editors' Comments:

Manuscript # 54972

Shaik et al Intra-Procedural Arrhythmia During Cardiac Catheterization – A Systematic Review of Literature

Reviewers' and editors' comments are in *blue and italicized*. Authors' responses are in black.

Reviewer #1:

The authors of the manuscript reviewed the literature to assess the incidence of cardiac arrhythmias during cardiac catheterization, and their impact on outcomes and potential approaches to minimize this risk. This is an interesting manuscript because assesses a topic that has not raised a lot of interest in the literature, little explored. I have no mayor comments. The results are well presented.

We appreciate the reviewer's positive comments and recognition that Intra-Procedural arrhythmia during cardiac catheterization is a interesting and little explored topic, and the reviewer's favorable assessment of the manuscript.

Page 4: Please, rewrite as this sentence is difficult to understand. "The majority of studies regarding RHC related arrhythmias are in of of these settings, especially in ICU or OR"...

Thank you for pointing out the language issues in this paragraph. We have revised the entire paragraph. It now reads below (in red in the revised manuscript):

“RHC may be performed in the CCL, at the bedside of intensive care unit (ICU) or the operating room. The majority of published studies on arrhythmias during RHC were about RHC procedures performed in the ICU or operating room settings. There have been no head-to-head comparisons about the incidence rates of significant arrhythmias or conduction disturbances during RHC performed in the ICU, operating room and CCL settings. The differences of arrhythmias occurring during RHC using different types or sizes (5 French, vs 7 French) of balloon tipped catheters was not studied either.”

Science Editors' Comments:

(1) Science Editor: 1 Scientific quality: The manuscript is a systematic review of intra-procedural arrhythmia during cardiac catheterization. The topic is in the scope of WJC. (1) Classification: Grade C.

We agree with the editor's assessment about the manuscript.

(2) Summary of the peer-review report: The authors of the manuscript reviewed the literature to assess the incidence of cardiac arrhythmias during cardiac catheterization, and their impact on outcomes and potential approaches to minimize this risk. This is an interesting manuscript because assesses a topic that has not raised a lot of interest in the literature, little explored. I have no mayor comments. The results are well presented. Page 4: Please, rewrite as this sentence is difficult to understand. "The majority of studies regarding RHC related arrhythmias are in of of these settings, especially in ICU or OR"...

We have responded to the reviewer's comment as above.

(3) Format: 4 tables and 1 figure. 103 references were cited, including 8 references published in the last three years. No self-citation.

We appreciate and agree with the editor's classification and assessment about the manuscript.

2 Language evaluation: Grade B. Language editing certificate was waived.

We appreciate and agree with the editor's classification and assessment about the manuscript.

3 Academic norms and rules: The conflict-of-interest disclosure form should be provided by corresponding author. The Copyright License Agreement were provided. The Biostatistics Review Certificate was provided. The PRISMA 2009 Checklist was uploaded.

The conflict-of-Interest disclosure forms have been provided and uploaded to the manuscript submission site.

No academic misconduct was found in the CrossCheck search and the Bing search.

We appreciate and agree with the editor's determination of NO academic misconduct about the manuscript.

4 Supplementary comments: (1) Invited manuscript. (2) Supported by the Development Plan of Excellent Youth Innovation Team in Shandong Province (2019), and Shandong Natural Science Foundation (ZR2019QH012). (3) Corresponding author has published 3 articles in WJC.

This manuscript was not supported by "Supported by the Development Plan of Excellent Youth Innovation Team in Shandong Province (2019), and Shandong Natural Science Foundation (ZR2019QH012)."

5 Issues raised: (1) Please write the "article highlights" section at the end of the main text;

Article Highlights section has been added as below:

ARTICLE HIGHLIGHTS

1. Cardiac arrhythmias are common during heart catheterization procedures.
2. Transient right bundle branch block occurs at the incidence rate of 0.14-0.3% during right heart catheterization. In patients with pre-existing left bundle branch block, there is a significantly higher risk of developing complete heart block (up to 6.3%) requiring treatment.
3. The incidence of cardiac arrhythmia during left heart catheterization and coronary angiography has decreased by about 10 folds in the last half century, from 1.1% to 0.1%, as a result of improved techniques, equipment and reagents.
4. Coronary artery instrumentation, including percutaneous intervention and intravascular imaging, increases the risk of malignant arrhythmias such as sustained ventricular tachycardia or fibrillations.

(2) The authors did not provide original pictures. Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor.

Original Powerpoint file of the figure has been provided.

(3) PMID and DOI numbers are missing in the reference list. Please provide the PubMed numbers and DOI citation numbers to the reference list and list all authors of the references. Please revise throughout.

The **REFERENCE** section has been thoroughly checked and updated to include PMID, COI and all authors for each reference.

Please revise throughout. 6 Re-Review: Not required. 7 Recommendation: Conditional acceptance.(Xiao-Quan Yu)

The authors appreciate the opportunity to revise our manuscript. We have now revised the manuscript as recommended by the reviewers and editors, with point-to-point detailed response to the comments as listed above. All required documents have been submitted via the online submission portal.

The authors would like to express our gratitude to the reviewers and editors for your constructive comments. It has helped to improve the manuscript greatly.