Reviewer’s report

Title: Unique electrocardiographic pattern “w” wave in lead I of idiopathic ventricular arrhythmias arising from the distal great cardiac vein

Version: 0 Date: 18 Dec 2018

Reviewer: Tetsuo Yagi

Reviewer's report:

Although the present study reported by Li et al. is interesting, additional data and discussions are recommended to enhance the importance of the study.

Major comments.

1-1. We need a reasonable explanation and discussion for the reason why PVCs originating from the GCV demonstrate a "w" pattern in lead I.

1-2. I would like to know that whether a "w" pattern in lead I is reproduced by pacing from the anterior endocardial mitral annulus or not.

1-3. A "w" pattern in the Figure 2 is subtle. Especially in the patient #2, 3, 5, 7, 8, 9, 11.

2. Is the selected control group in the present study appropriate? I would like to recommend comparison between idiopathic ventricular arrhythmias (VAs) ablated successfully at the anterior endocardial mitral annulus and GCV-VAs. Because main coronary venous is along with mitral annulus.

3. I would like to request the distribution analysis (diagram) of successful ablation sites in the GCV-VAs.

4. Please show us the comparisons of characteristics (e.g. pace-mapping score, activation time, morphologies of local electrograms (both bi-polar and uni-polar electrogram), impedance, ablation power and time to PVCs diminishment) between the successful ablation site at the GCV and the best (but failed) ablation site at the endocardium. In addition, please show us the distance between the successful ablation site in the GCV and the best (but failed) site in the endocardium.

Minor comments:

1. Page 3, line84. Number "iii" is duplicate.

2. Page 7, line 214. "CGV" might be spelling mistake.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

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Please indicate the quality of language in the manuscript:

Acceptable

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