

## Detailed Response to Reviewers

We are grateful to editors and reviewer for the critical comments and useful suggestions that have helped us to improve our paper considerably. As indicated in the following responses we have incorporated all these comments into the revised version of our paper. Underlined parts are what have been newly added or modified to the revised manuscript.

### **Reviewer(s)' Comments to Author:**

Reviewer #1:

**Scientific Quality:** Grade B (Very good)

**Language Quality:** Grade B (Minor language polishing)

**Conclusion:** Accept (General priority)

**Specific Comments to Authors:** This study evaluates the predictors and prognosis of POAF following HFS in elderly patients retrospectively and find that age, COPD and elevated E/e' ratio were potential predictors of POAF in patients with HFS. Also, POAF was revealed as significant predictor of intensive care unit admission and incident CHF. These results indicate that physicians have to carefully observe the occurrence of AF after HFS in elderly patients. This study has clinical significance as it provides real-world observational results in elderly Korean patients with HFS as well as a guideline for perioperative care of those patients. Some comments are as following: Please check the punctuations in results part of abstract. Semicolon and comma were both used after OR and the following numbers, please keep consistent.

**Response:** Thank you for your comment. We found our mistakes, and corrected them as follows.

**“Multivariable logistic regression analysis showed that age (odds ratio [OR], 1.111; 95% confidence interval [CI], 1.022–1.209), chronic obstructive pulmonary disease (COPD) (OR, 6.352; 95% CI, 1.561–25.841) and E/e’ ratio (OR, 1.174; 95% CI, 1.002–1.376) were significant predictors of POAF.”**

The last sentence in the core tip (written as cor tip in the manuscript) part needs to be revised.

**Response: As your comment, we revised last sentence in cor tip as follows. “Therefore, physicians have to carefully observe the occurrence of AF after HFS in elderly patients.”**

A recently published paper by Rostagno et al. (DOI: 10.1007/s11739-020-02372-6) also studies the POAF in patients undergoing HFS. It would be better to make a comparison with the results in that paper and discuss about the difference.

**Response: As your comment, we mentioned recent study of Rostagno et al. in discussion section. The present study evaluated the association between POAF and in-hospital complications, but Rostagno’s study showed poor long-term prognosis of POAF patients. So, we described above mentioned study and comparison of both studies as follows.**

**“Moreover, recent cohort including large number (n=2,922) of patients underwent HFS reported that patients with POAF experienced not only higher length of hospital stay but also higher 1-year mortality in comparison to control group.(34) The present study only showed significant association between POAF and in-hospital complications, but this study revealed poor long-term prognosis of POAF patients.”**

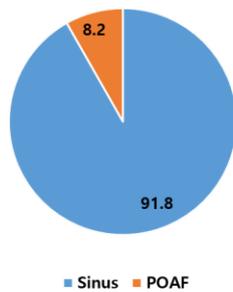
This manuscript includes several tables, which provides sufficient information and data.

However, it would be better to also make some figures. Please refer to Rostagno’s paper,

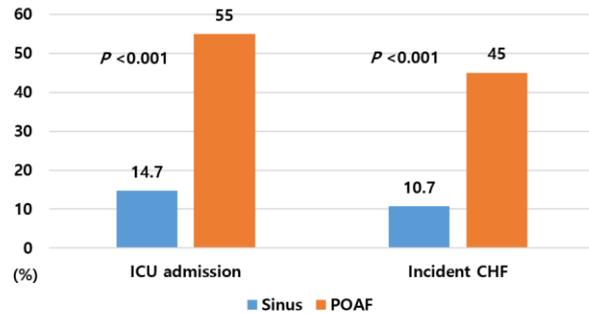
which would be helpful.

**Response: Thank you for your comments. As your comment, we made a figure which show incidence, risk factors, and prognostic impact of POAF following HFS.**

**Incidence (%) of POAF following HFS**



**Prognostic Impact of POAF**



**Risk factors of POAF**

	Adjusted OR (95% CI)	P value
Age (years)	1.111 (1.022–1.209)	0.014
COPD	6.352 (1.561–25.841)	0.010
E/e' ratio	1.174 (1.002–1.376)	0.047

**Prognostic Impact of POAF**

	ICU admission	Incident CHF
Adjusted OR (95% CI)	6.615 (2.112–20.718)	4.856 (1.437–16.411)

Reviewer #2:

**Scientific Quality:** Grade B (Very good)

**Language Quality:** Grade A (Priority publishing)

**Conclusion:** Minor revision

**Specific Comments to Authors:** The authors aimed to investigate the incidence, predictors, and hospital prognosis of POAF in HFS patients. They reviewed 245 patients without history of AF who underwent HFS. They concluded that POAF was frequently developed in elderly patients following HFS. Age, COPD and elevated E/e' ratio were found as significant predictors of POAF in HFS patients. Abstract well summarized and no comments The methods and results are well presented. The author included all major cofounders. One of the

factors they missed is frailty as it is a strong indication for mortality, ICU admission and even afib. Review this paper: The Association Between Body Mass Index, Frailty and Long-Term Clinical Outcomes in Hospitalized Older Adults If it is not possible to add frailty then mention it in limitations.

**Response: Thank you for your comments. As you mentioned, frailty is an important factor for clinical outcomes in elderly patients. However, calculation of frailty score is complex and difficult, so we could not evaluate and adjust frailty score in this study. Thus, we described these limitations in limitation section as follows.**

**“Fifth, frailty is a strong indication for mortality, intensive care unit admission, and AF. But, we could not incorporate frailty score in our analysis. Finally, because study patients and incident POAF patients (n = 20) were relatively small, the statistical power for the predictors of POAF might have been low. Moreover, for this reason, we only evaluated the association between POAF and in-hospital complications, but not long-term prognosis of POAF.”**

Again, we appreciate the time and efforts of the editor and reviewers toward our manuscript. We hope our responses have properly addressed all the issues raised by the reviewers. Thank you very much.

Sincerely,

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