

## Peer Review File

Article Information: <https://dx.doi.org/10.21037/apm-22-410>

**Reviewer A:** The article covers the very important subject, that has scarce reliable literature. The study is well designed and conducted, the paper is well prepared. However, there are minor unclarity that should be addressed.

**Comment 1:** The control group is not properly described in the abstract. Reader can not come to know whether this patients have or have not renal impairment or dialysis. It should be clarified.

**Reply 1:** Thanks for your comments. We are very sorry for our unclear description. The control group did not have renal impairment or dialysis. We have modified our text as advised. (see page2, line 6,7,8, page 5 line 17-18).

**Comment 2:** And in the manuscript is not clearly stated, why is such a difference in groups strength. I think it should be explained in statistical section.

**Reply 2:** Thanks for your comments. We are very sorry for our unclear description. To the greatest extent to reduce potential confounding and to adjust for differences in baseline characteristics between the HD patients and control patients, and consulting the reference (PMID 33051930), we use 1:4 matching between groups, 25 HD patients and 100 control patients. (see page8, line 21, page 9 line 1).

Your comments are very important to us. If we didn't understand any of your comments correctly, please let us know and give us another chance to revise. Again, special thanks to you for your comments.

**Reviewer B:** This is a clinical retrospective study from 2 cardiac centers, which aimed to examine the efficacy and safety of catheter ablation for AF among HD

patients, including all-cause mortality after catheter ablation. The authors concluded that catheter ablation was a feasible option to treat AF in HD patients, suggesting that although AF recurrence after first ablation could be common, a second ablation could lead to a favorable result, and that catheter ablation was safe in HD patients. This reviewer considers that this is already known in the clinical settings, this paper has only a small impact.

**Comment1:** What was the new findings in this paper? The results are already known.

**Reply 1:** Thanks for your comments. In our opinion, published data and clinical experience in HD patients are still scarce, and there has been no China regional data previously published. Therefore, we think this research is still warranted in the Chinese population. As the life expectancy for HD patients increase, additional evidence may inform clinician and patient decision making regarding catheter ablation for AF.

Additionally, the current study used a 3.5 mm irrigated ablation catheter (ThermoCool SmartTouch, Biosense-Webster) for AF ablation, which was different from previous studies: a study by Hayashi et al used an 8-mm-tip ablation catheter (EPT™, Boston Scientific Corp), a study by Takigawa et al used an 8-mm-tip ablation catheter (Japan Lifeline Inc), and another study by Sairaku et al used a 4-mm-tip non-irrigated ablation catheter (Biosense Webster). We added the ablation catheter description in the manuscript text (**See page 6, line 10-11**).

**Comment 2:** As the authors described in the Limitation section, they enrolled a small number of patients, which may cause a bias.

**Reply 2:** Thanks for your comments. We have to admit that sample size is small in our study and this was noted in our Limitation section. Future larger sized studies to validate these results are warranted. Consistent with this need, we will continue collecting data on HD patients.

Your comments are very important to us. If we didn't understand any of your comments correctly, please let us know and give us another chance to revise. Thank you again for your comments.

**Reviewer C:** This is a study looking for the AF ablation efficacy and safety profile in HD patients. The authors concluded that Af ablation in this population results in a similar outcome compared to non-HD patients and no complications were markedly different. Here are some of my suggestions.

**Comment 1:** Under method section, can author elaborate more on procedure standpoints? essentialaly for the access and hemostasis, ie. use of ultrasound guided access?, use of vascade?, manual compression or what after procedure is concluded.

**Reply 1:** Thanks for your comments. Vascular access was routinely obtained from the right femoral vein using traditional access methods without ultrasound guiding. We palpate for the femoral artery as the landmark, and puncture medially in the direction of the navel until reflux of venous blood. After the procedure, manual compression on the access site was applied until no bleeding could be observed. No venous closure or sutures were applied. We added this information as advised (**see page 6, line 6-15**).

**Comment 2:** How authors define preciprocedural complications? in what window period authors count them as a periprocedural complication. Any use information of pericarditis or significant pericardial effusion which needs to be monitored?

**Reply 2:** Thanks for your comments. Periprocedural complications included cardiac tamponade, stroke/TIA, vascular complications, and hemorrhage from index procedure through 90d following the procedure. We collected periprocedural complications as follows: patients were examined before discharge to screen for procedural complications; patients were advised to contact the study coordinator if they experienced any complications after discharge; at the month 3 follow-up visit, patients were asked about any procedural complications that occurred since discharge. After the procedure, routine ECG monitor was performed on all patients for 6 hours. If we found elevated heart rate or hypotension , or patients reported chest discomfort, shortness of breath, we immediately arranged bedside echocardiography to detect if

pericardial effusion occurred. We did not routinely monitor for pericarditis, which will be an addition to the clinical protocol in future studies. We have modified our text as advised (see page 7, line 14-15, page 8, line 12-16).

**Comment 3:** It seems like the authors use only radiofrequency ablation for AF ablation but it was not clearly specified. Please mention that in your manuscript unless there was a use of cryoballoon

**Reply 3:** All participants underwent only radiofrequency catheter ablation for AF, no cryoballoon was used. We have modified our text as advised (see page 6 line 19).

**Comment 4:** On page 6 line 11, the authors discussed the safety profile in AF ablation on HD patients. Despite Takigawa et statement (ref 19), in that study only 32 patients were on HD arm comparing to non-HD which had 1332, this may subject to an underestimation of complication rates and potentially suffer from selection bias as healthier population may be selected for the procedure. I do not think author can totally state that it is totally safe but should further mention this needs to be more studied to confirm the robustness. In Prasitlunkum et al, they found that CKD/ESRD actually is associated with higher complication rates in patients who underwent AF ablation. I think it is worth to cite this article (PMID 35018675) and further discuss about this current unclear status in safety profiles

**Reply 4:** Thanks for your comments. Considering the Reviewer's suggestion, we have reviewed the literature (PMID 35018675), and we are left with some questions. In the Abstract section the authors conclude "CKD was strongly associated with higher procedure- related complications and bleeding, but neurological safety profiles and mortalities rate were nonsignificantly different". In their Result section, Table 3 showed that, "in-hospital mortality, total pericardium complications, total vascular complications, total cardiac complications, total pulmonary complications, total GI complications and infection rates" were non-significantly different, and "Total complications (all complications and mortality) and total bleeding complications" is higher in CKD patients. In their Discussion section, they said "we found higher total

complication and infection rates in CKD subpopulations”, but Table 3 showed no significant difference in infection rates, and they did not mention whether these higher complications were procedure related. The authors did analyze possible reasons for bleeding events, such as older age, OAC, and combined with more comorbidities, but they did not clarify whether bleeding events were associated with AF ablation procedures. In the Conclusion section, the authors state ”CKD was associated with higher total complications, mainly driven by bleeding and infection complications, while mortality rates were similar among these patients.” They still did not mention whether these complications were ablation procedure related. Therefore, we don’t understand how the authors concluded “higher procedure-related complications” in the Abstract section.

Nevertheless, we thought the reviewer’s comment is reasonable. Many HD patients had underlying coagulopathy and which might contribute to bleeding risk. So, as the reviewer states, we can not state that AF ablation is totally safe in HD patients. We have discussed this as advised in our manuscript (see **page 11, line 12, page13, line 18-21, page 14, line 1-9, page 15, line 12**).

Comment 5: Wonder if any information on numbers of patients who were on AADs after the ablation on the first and second time. The fact that HD and non-HD patients had the same AF survival rate may be attritubatlle to use of AAD post ablation

Reply 5: Thanks for your comments. All patients after the ablation were routinely on AADs. We have modified our text as advised. (see **page 7, line 19** )

### **Minor**

**Comment 6:** I wonder if CAF is a typo?. In table 1, authors noted that CAF = persistent AF. Please clarify or use more appropriate abbreviation for persistent AF

**Reply 6:** We are very sorry for our error. we have changed the "CAF" word to “Persistent AF”. We have modified our text as advised. (see **page 20, Table 1** )