Author’s response to reviews

Title: Concomitant surgical ablation for atrial fibrillation (AF) in patients with significant atrial dilation >55 mm. Worth the effort?

Authors:

Simon Pecha (s.pecha@uke.de)
Samer Hakmi (s.hakmi@uke.de)
Irina Subbotina (i.subbotina@uke.de)
Stephan Willems (s.willems@uke.de)
Hermann Reichenspurner (hcr@uke.de)
Florian Mathias Wagner (fl.wagner@uke.de)

Version: 2
Date: 23 July 2015

Author’s response to reviews:

Dear Prof. Taggart, dear Prof. Zamvar,

thank you very much for reviewing our paper. The additional reviewers’ comments have been very helpful in improving the paper. Please find our revised manuscript attached that addresses their concerns. Please see the following point-by-point response.

Reviewer 1

1. this paper is well written and organized.
2. based on the data presented, the authors conclude, that AF patients with significantly enlarged LA diameters have reasonable success rates of obtaining sinus rhythm when undergoing concomitant surgical ablations at 1 year follow up. Limitations of the study (single center, retrospective data, relatively small study group, wide variety of concomitant cardiac surgery procedures, use of four different ablation devices and three different lesion sets as well as two different modes of obtaining follow up results) are being outlined clearly and discussed.
3. very nice discussion part pointing out relevant aspects of current literature with regards to the findings of this study.
4. it is not mentioned, in which patients a biatrial ablation approach was chosen, and if so, why. The relatively small study group in addition to various lesion sets and ablation probes (with different energy sources) results in a rather inhomogenous surgical approach and drawing conclusions based on this data is certainly limited. Would suggest to add this aspect in terms of setting up future investigations, which should not only have large numbers but also focus on
minimizing these variables which could very well impact success rates.
5. overall interesting paper which helps guiding clinical practitioners in the situation of enlarged LA diameters

Answer: Thank you very much for the helpful suggestions. We added in the methods section information for use of biatrial ablation in our study. Furthermore, we have to admit that this is a quite inhomogenous patient collective and in further studies, minimizing these variables might be helpful to draw clearer conclusions. We added this information to the limitations section. However in our opinion, this manuscript helps to show surgeons, that even in patients with significantly enlarged LA, it is reasonable to perform a surgical ablation.

Reviewer 2
In the manuscript "Concomitant surgical ablation for atrial fibrillation (AF) in patients with significant atrial dilatation > 55 mm. Worth the effort?", Pecha et al analysed outcomes of patients with left atrial dilatation > 55 undergoing concomitant AF ablation.

The manuscript is interesting, well written and problem well stated. Literature is updated. However, there are some points which need to be addressed.

1. From a methodological point of view, authors should briefly mention the several types of atrial fibrillation and report in baseline characteristics the rate of persistent AF and long standing persistent AF.

Answer 1) This is a very good point. However in this retrospective analysis with data back to the year 2003 it was not always possible to distinguish between persistent- and longstanding persistent AF, as in these times the terms for classification of AF were different and only paroxysmal and chronic AF were distinguished. We therefore combined patients with persistent- and longstanding persistent AF in one group, to avoid misleading conclusions. But you are absolutely right, that we wave to distinguish this in further studies.

2. Please report in the result section for each group of patient with paroxysmal, persistent and longstanding AF the concomitant procedure surgeons have performed. In other word how many patients with paroxysmal AF, persistent and long standing AF had Isolated bilateral pulmonary vein ablation, complete left atrial ablation and biatrial ablation? this is important as a reader might better understand the rate of success from AF.

Answer 2) As mentioned above, we are not able to distinguish between persistent- and longstanding persistent AF. However we have now provided rate of patients with
paroxysmal AF receiving PVI, complete left atrial ablation and biatrial ablation. Same information are provided for the group of patients with persistent and longstanding-persistent AF.

3. Form a statistical point of view, authors developed a multivariable model to identify predictor of SR at 1 year. However, this methodology is wrong as period analysis need to be evaluated using Kaplan-Meyer and COX hazard analysis. Therefore I recommend to use the COX analysis to identify predictors of SR at 1 year. In addition, please report HR and 95% CI.

Answer 3) Thank you for this advice. We now used Cox regression analysis and added 95% CI and HR.

4. Authors identify a cut off of 70 mm as negative predictor of SR. Although I suppose it is write, from a methodological point of view, authors need to explain how they selected this number. Did you us a ROC curve analysis?

Answer 4) ROC curve analysis was used. We added this information to the statistical methods section.

5. Regarding patients who had a further ablation after 6 months, what was the problem. I suppose these patients had an electrical mapping. Was there any gap regarding the atrial transmurality or lack of connection among some atrial lines.

Answer 5) We found both. Some patients had a gap within the provided lines, while in others, the lack of connections between the lines was a problem.

6. In the light of your results, what do authors suggest? A flow chart would be useful in understanding the treatment of concomitant AF ablation. For example a 70 year old patient undergoing CABG surgery and in persistent AF, what do you suggest to perform? pulmonary isolation? left atrial ablation of biatrial ablation?

Answer 6) Atrial flutter was seen in three patients. We added this information to the manuscript.

6. Please in the figure 1 report patients at risk at 3,6 and 12 months.

Answer: We added pts. At risk, as proposed by the reviewer.