Yamagata and colleagues describe a case involving repeat ablation of the mitral isthmus in the context of a stepwise ablation approach for persistent atrial fibrillation with recurrence of atrial tachycardia involving the mitral isthmus (MI). Block of the MI could not be achieved during the first procedure but was achieved during the second procedure. A third procedure for perimitral flutter is described wherein a conduction gap in the MI line was eliminated by bipolar irrigated ablation from endocardium and CS after unsuccessful unipolar ablation. The manuscript is clearly written and the technique is novel for the specific lesion set.

I have 2 comments:

1) The follow up of 10 months is relatively short considering the fact that the patient was arrhythmia-free for 3 years after the first (no MI block achieved), and for one year after the second procedure (MI block achieved during the procedure). The point here is that little evidence is provided of the durability of the MI block after bipolar ablation. This should be discussed as a limitation.

2) An alternative lesion set to terminate perimitral flutter is an anterior line from mitral annulus to septal or lateral PV circumferential isolation line. This is relatively easy to achieve if there are pre-existing low-voltage areas of the anterior wall often found in patients with persistent atrial fibrillation especially after CFAE ablation. Was this considered? In any case, this merits discussion.

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.

Unable to assess

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

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financialy from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors'
responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal