Reviewer’s report

Title: Intracardiac echocardiography versus fluoroscopy for endovascular and endocardial catheter navigation during cryo-ablation of the slow pathway in AVNRT patients

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Reviewer: Alex PW Lee

Reviewer's report:

The authors reported an interesting non-randomized study on using a zero-fluoroscopy ICE-guided EP technique for SVT compared to conventional fluoroscopy-guided EP. They found that ICE visualization of catheters and endocardial structures within the triangle of Koch shortens the cryo-application duration, though time needed for catheter placement is longer, when compared with conventional fluoroscopic guidance, which results in similar mean EPS duration with both navigation techniques. I have the following comments:

1. The ICE group is 5 years younger than the control group. How could that might have affected the results?

2. 5 of 27 patients in the ICE group do not have inducible AVNRT, with either no or other inducible SVT, and were excluded from the analysis. I am concerned whether ICE missed some important SVT. What was the acute and long-term outcome of these 5 patients? Was a lot more time needed in these patients to diagnose the non-AVNRT SVT because of the limitation of ICE guidance which allow visualization of the triangle of Koch but not structural foci of other SVT? Please elaborate.

3. As the authors report using both/either 2D and 3D ICE. Is there any difference in procedural time, outcome, etc, between 2D vs 3D ICE?

4. Page 14, line 30-33: "...solely ICE guidance was sometimes challenging, but catheter placement time seemed to decrease with operator's experience." Please provide more data to support that statement.

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I have received reimbursement and funding from Philips Healthcare and Abbott.

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