Reviewer’s report

Title: Cardiovascular Magnetic Resonance in the Evaluation of Heart Valve Disease

Version: 0 Date: 09 Mar 2017

Reviewer: Kraen Morten

Reviewer’s report:

Congratulations on your work.

Major comments

In my opinion this is more of an introduction on how to evaluate VHD with CMR than a review of the subject. Generally I find the paper well written, clear and precise.

Page 12, line 9-11:

It is not really clear to me if you derive the regurgitation volume/fraction directly from the phase contrast velocity mapping or indirectly through LV stroke volume measurements. The latter would surprise me. Please clarify.

General comments:

I am not sure it is necessary to print table 2-6 they could be referred to instead.

A table of the pros and cons of CMR in the context of AS, AR, MS and MR could be more informative.

The conclusion could then portray a more detailed discussion hereof. I also think you should further emphasise the problem that even though we can measure accurately the interpretation is arbitrary due to the lack of prospective trials

Personally I find the added value of CMR in AS and MS limited, but it is probably underused in AR.

Minor comments

Page 2, line 3: I consider CMR to be a supplement to echo, not an alternative.

Page 3, line 7: Echo is always operator dependent (And CMR is too albeit to a lesser extent)
Page 3, line 12: Maybe use the word cardiac chamber if you also evaluate the effect on the atria.

Page 4, line 8-10: I agree but I consider CMR to be quite inferior to echo in visualising small mobile structures.

Page 5, line 10-11: Please clarify for the inexperienced reader that this in an averaged flow-time graph and that free-breathing PC-imaging is time consuming and limited by atrial fibrillation and premature beats.

Page 6, line 24: I agree, but could you refer to a paper

Page 7, line 16: I would use dyspnoea instead of heart failure.

Page 10 line 12-17: If you want to comment on ECV and T1-mapping you should described the underlying principles in the general principles section.

Page 11, line 14: could you refer to any papers validating this method of planimetry of the AR orifice area?

Page 11, line 18: the abbreviation : AVR is not explained.

Page 16, line 1-2: please refer to the paper proposing this threshold.

Page 16 section pulmonary valve disease: I agree, but you could shortly state that PR evaluation is done similarly to AR evaluation.

Page 18, line 13 MR should be CMR

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

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