Reviewer's report

Title: Contrast enhanced transesophageal echocardiography in patients with atrial fibrillation referred to electrical cardioversion improves atrial thrombus detection and may reduce associated thrombembolic events

Version: 1 Date: 22 August 2012

Reviewer: Albert A Varga

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The Authors of the present manuscript evaluated the usefulness of addition of contrast during TEE examination in patients with atrial fibrillation before cardioversion. The study group consisted of 90 patients studied with contrast enhanced TEE and the results were compared with a control group, where the TEE was “native”, without contrast enhancement. The Authors concluded that the addition of contrast to the TEE could improve the reliability of the examination before cardioversion. With the addition of contrast to the TEE there were significantly lower “non conclusive” readings and no embolic events occurred in the study group.

The study is interesting. I have the following comments and questions:

Major Compulsory Revisions
1. The Abstract is too long, both the “Aims” and the “Methods” section should be shortened.
2. The description of the “exclusion criteria” is superfluous in this case, since patients with planned CV were selected.
3. “Anticoagulation therapy was not required before TEE but was started after TEE if patients were deemed eligible for CV. In the remaining patients, anticoagulation was started according to CHADS2-Score and as recommended in the ESCguidelines for the management of patients with AF (#1139 Fuster et al.)” which remaining patients? This statement should be clarified and an appropriate reference should be added to the references.
4. Data reading. According to the Authors description, 2 experienced observers reviewed the images. What was the interobserver agreement of the readers?
5. The classification during the data reading was different in the patient and control group. What was the reason? It would be also interesting, how many patients, or how many percent of the patients in the “control” group had an inconclusive or inadequate reading?
6. Results. What was the success rate of the cardioversion? Was it the same in both the “patients” and control groups?
7. Due to the nature of the Journal, movie clips, instead of images should be added to the paper.
Minor Essential Revisions
1. The English language needs some revision
2. Figure 2. non conclusive instead of non conclusive

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests