Reviewer's report

Title: No Relationship Between Left Ventricular Radial Wall Motion and Longitudinal Velocity and The Extent and Severity of Noncompaction Cardiomyopathy

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Reviewer: Albert Varga

Reviewer's report:

The Authors of the present manuscript analyzed the radial wall motion and longitudinal wall velocity in patients with non compaction cardiomyopathy according to the extent and severity of non compaction. They studied 29 consecutive patients suffering of non compaction cardiomyopathy with echocardiography. They principal finding was that that in patients with NCCM both radial and longitudinal LV wall motion is impaired but not related to the extent and severity of non compaction

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

Major Compulsory Revisions

1. In the abstract, the Authors stated, that “The study comprised 29 patients in sinus rhythm (age 41 ± 15 years, 15 men), who fulfilled stringent diagnostic criteria for NCCM and compared to 29 age and gender matched healthy controls”. The control groups served for the derivation of normal systolic wall velocities. The Authors calculated a “normalized Sm values”. Please give an explanation why it was necessary. It would be good to know the absolute values in the patients group, as well.

2. The exact assessment of the radial left ventricular wall motion/thickening could be difficult in segments affected by non compaction. According to my opinion, a more qualitative analysis is warranted in this case. What was the inter and intraobserver variability regarding the wall motion analysis?

3. The patients were selected according to the Jenni criteria. One of the requirements of these selection is “a NC/C myocardial thickness ratio # 2 measured at the moment of maximal thickness in end-systole at the parasternal short axis”. However, when the NC/C ratio was created, the Authors considered segments with NC/C ratio >1.0 but <2.0, with a given a score 1. Presumably, not all NC segments had a NC/C ratio more the 2, but the description of the methodology in this fashion is a little bit superficial, and therefore needs more elaboration. In addition, the definition of maximal NC/C ratio is not clear enough.

4. The number of heart failure patients is not clear. In table I: presentation heart failure N=16, but 18 patients were either in NYHA II or III stadium, and in table II heart failure n=17. Please, clarify.

5. The patients without heart failure had a Normalized mean Sm close to 100%.
Maybe it would be interesting to comment this data in the discussion.

6. The discussion section is weak. The Authors should discuss the results in regard to the clinical implications of the new findings and it would be desirable to notice the limitations of the study, as well.

Minor Essential Revisions

1. NCCM patients had a wall motion score index of 1.68 ± 0.43. Mean or average
2. NCCM patients had a normalized Sm of 82 ± 20%. Mean or average
3. There are some typographical errors throughout the manuscript.
4. It would be desirable to add some clips/movies to the manuscript

**Level of interest:** An article of limited interest

**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