Reviewer's report

Title: Mitral annular systolic velocity as a marker of preclinical systolic dysfunction among patients with arterial hypertension

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Reviewer: Maurizio Galderisi

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The study deals with the interesting issue of early reduction of longitudinal function in arterial hypertension and diabetes mellitus by using pulsed Tissue Doppler. The findings of the study demonstrates that myocardial systolic velocity is reduced in hypertensive patients, with an additional influence of diabetes mellitus.

These findings have been already observed in this clinical setting by using multiple techniques (pulsed and color Tissue Doppler, Doppler derived strain rate imaging, speckle tracking echocardiographic strain. However, the manuscript appears of clinical interest in relation with the large sample size assessed and also the age range and gender impact which represent the novelty.

Concerns

1. The reproducibility of pulsed Tissue Doppler should be analyzed and reported.
2. Some information about demographic parameters (heart rate, blood pressure, body mass index) some laboratory parameters (glycemia, glycated hemoglobin) shall be reported in the tables. They are useful to characterize the study population.
3. The authors could search some relationships between myocardial systolic velocity and demographic (age, blood pressure) and laboratory data (glycated hemoglobin) and even perform a multiple linear regression analysis to weigh the independent influence of diabetes and hypertension. It could be valuable in a global sample size of about 600 subjects.
4. The reference list is poor in relation with the multiple studies which have assessed this issue. This is important to discuss appropriately the own findings in the “Discussion” section.
5. In the ref # 10 the first name is Mor Avi V
6. A figure showing the value of myocardial systolic velocity in the different (of some of) subgroup could be welcome.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable
Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

No conflict of interest