Reviewer’s report

Title: Lower diastolic wall strain is associated with coronary revascularization in patients with stable angina

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Reviewer: David W. Leibowitz

Reviewer's report:

In this retrospective study, Choi et al attempt to examine the association of diastolic wall strain as examined by routine 2-D echo and the need for coronary revascularization in patients with "stable angina". The major problems with the study are the study design as well as the study population which is not well defined.

Major comments

1. 440 patients referred for angiography (which already introduces strong bias) for "the evaluation of chest pain and dyspnea' comprised the study population. This population is described as having "stable angina" but it is completely unclear on what basis this diagnosis is made. The fact that only 29% underwent revascularization suggests this was a diverse population. What were clinical characteristics of the complaints? ECG findings? Non-invasive W/U such as stress tests, thallium scans, Ct angio?

2. If the aim of the study was to examine DWS as a predictor for the need of revascularization why not compare to other diagnostic modalities (such listed above) instead of echo measurements which (as the authors note) are insensitive for this purpose?

3. The authors use of diastolic dysfunction as part of the "ischemic cascade" to justify the study is irrelevant in exams performed at rest without active ischemia.

4. There is no information provided on the angio results and on the findings in the subjects not undergoing revascularization (normal coronaries/ distal disease?). The calculation of DWS was made using posterior wall segments. I would only expect this to be affected by coronary arteries supplying these segments (RCA or LCX). Was this the case?
Minor comments

1. Why did all patients have carotid ultrasound is this part of routine workup of chest pain in the authors institution?

2. Figures 1A and B seen to depict different scales of the images which is confusing.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
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