Reviewer’s report

Title: Comparison between integrated backscatter intravascular ultrasound and 64-slice multi-detector row computed tomography for tissue characterization and volumetric assessment of coronary plaques

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Reviewer: Rosa Sicari

Reviewer’s report:

This is an interesting and well conducted study showing that integrated backscatter allows a better detection of plaque composition when compared to CT scan. The results, although not totally original and unexpected, have clinical relevance. There are a few issues that authors should address.

1. It is not clear why authors used a ROC analysis for CT values. IBS is not a real gold standard, as authors recognize; however, a reclassification (Pencina) approach would gain clinical relevance: i.e. how many times CT did not recognize the three categories of plaque composition. Please address.

2. Please give definition of the three categories of plaque composition: fibrosis in particular.

3. The discussion is too long and the comparison with previous studies too extended. Authors should expand the reasons why CT is a poor tool to detect plaque composition and why tissue characterization is a better tool.

4. The clinical implications should be expanded

5. The limitations of IBS are not addressed. This remains a research tool which never gained clinical utility. Please discuss.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

'I declare that I have no competing interests'