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Rev Esp Cardiol. 2014;xx(x):xxx–xxx

Letter to the Editor

Comments on Exercise Echocardiography and Multidetector Computed Tomography for the Evaluation of Acute Chest Pain. Response

Comentarios a la evaluación del dolor torácico agudo mediante ecocardiografía de ejercicio y tomografía computarizada multidetectores. Respuesta

To the Editor,

We would like to thank Dr Catalán for her comments and to clarify certain points.

Although major technological progress has been made in cardiac multidetector computed tomography (MDCT) since 2008 when the above-mentioned study was started, it is important to recognize that both the myocardial perfusion study and the recent evaluation of functional repercussion using MDCT discussed by Dr Catalán are emerging techniques that are not included in clinical practice guidelines.[1] Noninvasive estimation of the coronary reserve flow using MDCT, whose analysis is still not widely available, could be promising in the future, but its diagnostic value in addition to MDCT angiography is still to be determined for acute chest pain.

Dr Catalán states that the results could have been improved by a different image reconstruction according to the study by Rixe et al.[2] The device used in our study provides a rotation time of 370 ms, inferior to the 330 ms used by Rixe et al. To compensate for the loss of sharpness of the coronary lumen, we used 0.7 mm slices and 0.4 mm increments instead of the 0.6×0.3 mm suggested by Rixe et al, resulting from the tests performed and consensus among 3 observers. For the same reasons, a tube current of 120 kV was maintained, similar to that used by Rixe et al, instead of the suggested 100 kV.

Our article acknowledges the specificity of MDCT was affected by the 50% stenosis cut-off value, which is why we conducted another analysis at 70%, producing a considerable improvement in specificity. However, we did not think that an Agatston Ca score > 400 significantly impaired the specificity of MDCT, as only 1 in 5 patients with a Ca score > 400 did not show acute coronary syndrome. With similar devices, in the presence of a Ca score > 400, the proportion of nonconclusive studies increases, luminal stenosis is overestimated and the specificity of the technique is severely limited[3]; moreover, a Ca score of > 400 has been shown to be an excellent predictor for significant coronary disease.[4] Along the same lines, Goldstein et al[5] recommended performing single-photon emission computed tomography (SPECT) when Ca scores were > 100, markedly lower than the 400 score used in our study.

Finally, in our opinion, the cost-effectiveness differences between the studies by Hoffman et al[6] and Goldstein et al[5] were not exclusively due to the differences in the cut-off values chosen for stenosis (50% vs 70%). Moreover, there were differences in the prevalence of acute coronary syndrome in the MDCT group (9% vs 4.4%), as well as large differences in the percentage of additional tests conducted in the control groups of the 2 studies (45% vs 100%, respectively), which contributed to the discrepancies observed.

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Please cite this article in press as: Ortiz-Pérez JT, Bosch X. Comentarios a la evaluación del dolor torácico agudo mediante ecocardiografía de ejercicio y tomografía computarizada multidetectores. Respuesta. Rev Esp Cardiol. 2014. http://dx.doi.org/10.1016/j.recesp.2014.10.005