Usefulness of Coronary Computed Tomography in Real Practice

Valor, en la práctica clínica real, de la angiografía coronaria por tomografía computarizada

To the Editor,

Patients frequently seek medical advice in our hospital emergency department due to chest pain. It is for that reason that we read the editorial that recently appeared in Revista Española de Cardiología with interest.1 This article reviewed how certain non-invasive image tests contribute to assessing patients with chest pain, as reported in other studies.2,3 Coronary computed tomography (CT) is especially reaching a notable peak, given the promising results presented by various authors.4,5 As far as we are aware, it is almost exclusively used in clinical research protocols in our field, meaning that it is difficult to be able to establish whether its performance and outcome are comparable to those found in the English literature. To verify this fact, we would like to present our experience.

During 2008, we chose a subgroup of patients attended to in the chest pain unit (CPU) of our emergency department, within the times that the coronary CT machine was available. Having applied the CPU diagnostic protocol, they were classified as low risk. In total, 319 of 1087 patients (29.3%) were eligible for recruitment.6 Among these, we chose those that had no coronary disease events, with at least one coronary risk factor and without contraindications for coronary TC. Of these 55 patients, 1 refused to participate, leaving 54 (16.9%) patients. As a result, our first interpretation is that, in usual clinical conditions, only a small percentage of patients are finally suitable for coronary TC (in our study around 20%). Therefore, this technique cannot be currently used for all low-risk patients with chest pain. Even if we had included the 110 patients excluded for not having coronary risk factors, the percentage of suitable patients would have been about 50% —164 of the 319 (51.4%)— which is similar to that of the Goldstein et al. study.4 Secondly, we would like to highlight the high percentage of false positive found in our study: 33%.6 These results are in agreement with the statements made by Kontos1 in the sense that coronary TC has to be used along with other noninvasive methods to correctly assess chest pain and it increases the percentage of cardiac catheterization. We believe that these findings can improve over time as doctors gain more experience and machine resolution increases. This is a second important reason for questioning the current usefulness of coronary CT in real practice.

However, we are positive about the future usefulness of coronary CT. The results from the controlled studies are outstanding and encouraging for emergency room doctors, who are often under extreme pressure. The only way that we are able to safely and cheaply shorten the waiting hours that these patients spend in the emergency department is by encouraging future studies that delve deeper into which subgroup of patients to consider and how coronary CT can be implemented in assessment protocols for patients with chest pain in hospital emergency departments.

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