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IMAGE IN CARDIOLOGY

Contribution of cardiac computed tomography angiography to assessment of chest pain☆

Contributo da angio tomografia computorizada cardíaca na avaliação da dor torácica

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The authors present the case of a 47-year-old man, with hypertension and dyslipidemia as cardiovascular risk factors, who had come to the emergency department in 2008 for chest pain. Diagnostic exams at that time (ECG and cardiac biomarkers) revealed no signs of acute ischemia, but exercise testing was positive for myocardial ischemia. Invasive coronary angiography was performed, which showed no angiographically significant coronary lesions. He subsequently underwent myocardial perfusion scintigraphy, which revealed no evidence of ischemia.

Due to persistence of symptoms, in 2012 exercise testing was repeated, which was positive for ischemia. In order to clarify the clinical picture, he was referred to our hospital for cardiac computed tomography (CT) angiography. This showed a zero calcium score (Figure 1), corresponding to the 25th percentile for age and gender, and revealed 50–70% stenosis with a non-calcified eccentric plaque in the distal left main/proximal anterior descending artery (Figure 2).

Invasive coronary angiography confirmed significant coronary artery disease (Figure 3) and the patient was referred for coronary artery bypass grafting. The authors did not have access to the initial coronary angiography since this was performed in a different institution, and at referral the patient was in possession of clinical information only, together with the request for cardiac CT angiography.

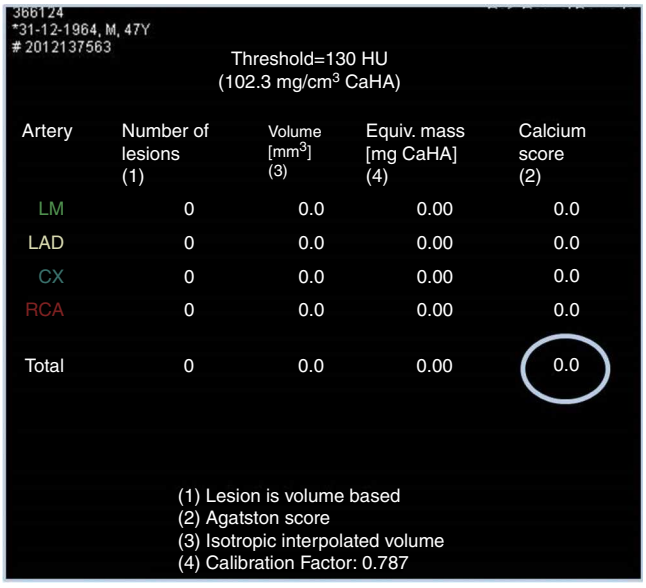

Figure 1 Calcium score.

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Figure 2 Computed tomography angiography showing significant plaque in the distal left main artery.

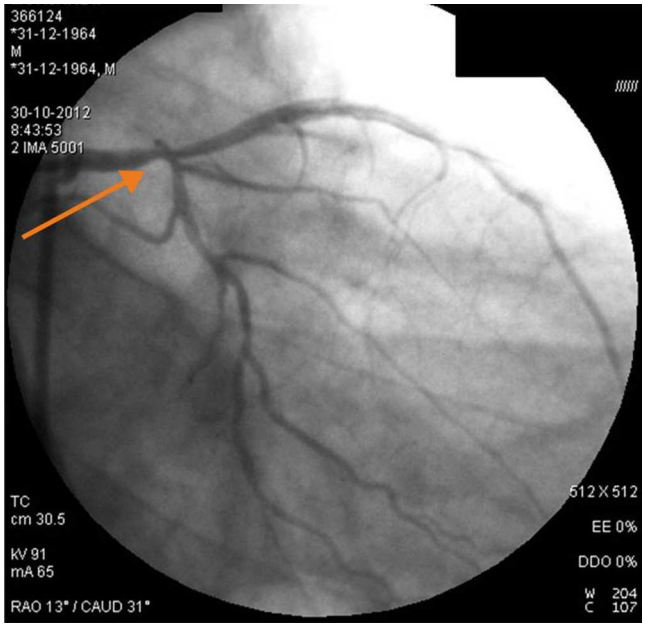

Figure 3 Invasive coronary angiography showing significant plaque in the left main artery.

This case highlights the important contribution that cardiac CT angiography can make to the diagnosis and characterization of coronary artery disease.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

Conflicts of interest

The authors have no conflicts of interest to declare.