Abstract: P980

Myocardial infarction with non-obstructive coronary arteries: clinical course and diagnostic value of cardiac magnetic resonance imaging

Authors:
AR Pereira¹, AR Almeida¹, I Cruz¹, A Marques¹, S Alegria¹, AC Gomes¹, A Briosi¹, D Sebaiti¹, LR Lopes², M Ramalho³, H Pereira¹, Hospital Garcia de Orta, Cardiology - Almada - Portugal, ²Barts Health NHS Trust - London - United Kingdom, ³Hospital Garcia de Orta, Radiology - Almada - Portugal,

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Introduction: Myocardial infarction (MI) with non-obstructive coronary arteries (MINOCA) is a syndrome with multiple causes, each one characterized by different pathophysiology, prognosis and optimal management. Multiple diagnostic pathways have been proposed to evaluate patients (pts) with MINOCA, having early cardiac magnetic resonance (CMR) a central role.

Purpose: To evaluate the clinical course of pts with MINOCA and the diagnostic value of CMR.

Methods: Retrospective unicenter study including pts admitted to the Cardiology Department, from 2014 to 2017, with acute MI (diagnosed according the third universal criteria) and non-obstructive coronary artery disease (stenosis < 50% evaluated by invasive coronary angiography). All pts performed CMR during hospital stay. After discharge, all-cause mortality, cardiovascular (CV) readmission and need for revascularization were recorded. Two groups were compared (group 1 – pts with/ group 2 – pts without diagnosis of MI by CMR).

Results: Thirty-three pts were included: 20 (60.6%) female; mean age 48 ± 11 years. Dyslipidemia [15 (45.5%)], primary hypertension [13 (39.4%)] and actual smoking [11 (33.3%)] were the most common CV risk factors. Only 1 patient (pt) had previous diagnosis of coronary artery disease, with complete revascularized one-vessel disease. At the admission, 30 pts (90.9%) had angina, 25 with typical features; 2 pts (6.1%) presented aborted cardiac sudden death from ventricular fibrillation. 12-lead ECG revealed ST segment elevation in 12 pts (36.4%). Initial echocardiogram showed depressed left ventricular systolic function in 11 pts (33.3%) and segmental wall motion abnormalities in 20 (60.6%). During hospital stay, only 2 pts evolved in Killip Kimball class III and 1 in class IV. CMR performed the diagnosis in 26 pts (78.8%); the other 7 had normal myocardium by this method. MI was diagnosed in 8 pts (24.2%) – group 1. The remaining pts (group 2) had the diagnosis of myocarditis [13 (39.4%)], Takotsubo cardiomyopathy [4 (12.1%)] and hypertrophic cardiomyopathy [1 (3%)]. No significant difference was observed between groups in terms of baseline and clinical characteristics, including, in-hospital evolution. At a mean follow-up of 23 ± 12 months, 4 adverse events were recorded as CV readmission: 3 pts (2 belonging to group 1) were readmitted due to acute coronary syndromes and 1 pt (belonging to group 1) due to sustained ventricular tachycardia. Occurrence of an adverse event (p = 0.91) and time until its occurrence (p = 0.16) also did not differ between groups.

Conclusions: In this study, pts had favorable evolution both during hospital admission and during follow-up. CMR identified the underlying pathology in 79% of the pts, supporting the diagnostic value of this imaging modality in MINOCA.