Abstract: 37

Sub-endothelial coronary artery dissection in patients with cardiac arrest, acute coronary syndromes and angiographically normal coronary arteries - an optical coherence tomography pilot study

Authors:
I Benedek¹, M Chitu¹, I Kovacs¹, A Mester¹, A Benedek¹, T Benedek¹, ¹University of Medicine and Pharmacy - Targu-Mures - Romania,

Topic(s):
Acute Coronary Syndromes: Angiography, Invasive Imaging, FFR

Citation:

Funding Acknowledgements:
Grant no. 103545/2016, financed by the Romanian Ministry of European Funds, the Romanian Government and the European Union

Background: The mechanisms associated with cardiac arrest (CA) consecutive to an acute coronary syndrome (ACS) in patients with angiographically normal coronary arteries (ANCA) are still unknown.

Purpose: The aim of this study was to investigate, using intracoronary imaging, the morphologic pattern of coronary lesions in patients with ANCA who survived an CAS complicated with CA.

Methods: The study included 18 consecutive patients who presented in the emergency department with CA following an acute myocardial infarction, and in whom emergent coronary angiography revealed ANCA. All patients underwent intracoronary imaging using optical coherence tomography (OCT).

Results: In all cases, coronary angiography revealed an abnormal non-laminar coronary flow, located at the level of left anterior descending artery in 12 cases (66.6%) and right coronary artery in 4 cases (22.2%) and circumflex artery in 2 cases (11.1%). Ejection fraction was in average 53.7% +/- 7.1%, 95% CI 48.20-52.3%. OCT revealed a dissection in the sub-endothelial layer in all cases. Location of sub-endothelial dissection by OCT was at the level of the corresponding angiographically slow flow in all the cases.

Conclusions: Repeated episodes of sudden increase in blood pressure, especially in the young female population, may trigger the de-structuration of the endothelium leading to sub-endothelial dissection and atheromatous plaque formation in patients with ACS and can represent a contributing factor for CA with ANCA.