Prognostic impact of recommended treatment in patients with myocardial infarction with nonobstructive coronary arteries

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On behalf: IMACORN

Topic(s):
Acute Coronary Syndromes: Myocardial Infarction with Non-obstructive Coronary Arteries

Introduction: Myocardial infarction with non-obstructive coronary arteries (MINOCA), and specially its treatment, is still a challenge in the clinical practice. The Position Paper of the European Society of Cardiology (PP-ESC) of 2016 recommend to treat this patients (pts) like those with obstructive arteries: double antiplatelet therapy (DAPT), betablockers, angiotensin converting enzyme inhibitors (ACEi) or angiotensin II receptor blocker (ARB) and statins. The aim of this study is to analyze the use of the recommended treatment in the clinical practice, and the impact in the prevention of cardiovascular events.

Methods: Analytical and observational study developed in a Universitary Hospital which covers over 220,000 individuals. From January-2016 to December-2019, we registered all the pts that were admitted for MINOCA. We analyzed the treatment at discharge and its relationship with mayor adverse cardiovascular events(MACE) at the year of follow up.

Results: During the period studied, 115 pts were diagnosed of MINOCA, with only one case of in-hospital death. At discharge, DAPT AAS were prescribed in 61%, and a second antiplatelet therapy (clopidogrel, ticagrelor or prasugrel) in 36% of pts. Only 63% of MINOCA pts were on betablockers at discharge, while 61% were on ACEi or ARB and 39% with both of them. Regarding other cardiovascular treatment nitrates were prescribed in 10% of MINOCA pts, calcium channel blocker (CCB) in 15% and nondihydropyridine-CCB in 5%. Statins were used in 61% of pts.

We completed the follow up of 97 of the 114 MINOCA pts discharged (85%). After one year of follow up, MACE occurred in 10 pts (10%). This events were less frequent among MINOCA pts treated with betablockers (3,3% vs 22,2%, p 0,005) and with ACEi/ARB (5,1% vs 18,4%, p 0,045). There were a significant difference in MACE between MINOCA pts who takes both betablockers and ACEi/ARB and those without these treatments (2.9% vs 40%, p 0,001). On the other hand, the use of nitrates and CCB were associated with a significant increase of MACE (5,7% vs 50%, p < 0,001; 7,3% vs 26,7%, p < 0,045). The use of statins or DAPT was not related with MACE in MINOCA pts.

Conclusion: This study showed a reduction in MACE with the use of betablockers and ACEi/ARB in MINOCA pts, and even an added effect with the joint use of them. Otherwise, the use of DAPT or statins did not reduce MACE. Surprisingly, nitrates and CCB appeared to increase the events, maybe showing that these drugs have to be used carefully in MINOCA pts or that the etiology of MINOCA in this concrete pts is the cause of the worse prognostic. In conclusion, more studies are needed to improve the knowledge of MINOCA and its correct treatment.