Impact on the prognosis of treatment administrated in the daily clinical practice to patients with myocardial infarction with non-obstructive coronary arteries.

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Background:
Myocardial Infarction with Non-Obstructive Coronary Arteries (MINOCA) remains a challenge in cardiology clinical practice. 2016 European Society of Cardiology Working Group position paper (ESC-WGPP) recommend to treat them as the rest of myocardial infarctions, mainly with dual antiplatelet therapy (DAT), beta blockers, Angiotensin Converter Enzyme Inhibitors (ACEI), and statins. The aim of this study is to analyse the use of optimal medical treatment (OMT) of ischemic heart disease (IHD) treatment on this group of patients and its implication in their prognosis.

Methods:
Analytical and observational study based on a retrospective cohort of MINOCA (according to the definitions of ESC-WGPP) extracted from the myocardial infarction registries of three University Hospitals during the period from 2003-2018 (N:9371). We analysed data about the treatment of all consecutive MINOCA. Treatment prescribed was the one considered by their responsible doctors.

We recorded specific information about treatment prescribed after hospitalization. Follow up analysis based on Cox regression included death from any cause and major adverse cardiovascular events ([MACE], a composite of a recurrence of myocardial infarction, stroke or transient ischemic attack or death from any cardiovascular cause) Median follow up was 52.6±32.5 months.

Results:
Of 9371 patients initially admitted for acute myocardial infarction, 620 were classified as MINOCA (incidence 6.6%). Median age was 64.2 years old, and 40.7% were women. Regarding cardiovascular risk factors, 25.1% were smokers, 19.0% had diabetes, 42.3 had dyslipidemia and 57.7% hypertension. At discharge, 18.2% had ventricular dysfunction.

DAT was prescribed in 32.4% of MINOCA patients, beta blockers in 59.5%, ACEI in 54.8% and statins in 71.9%.

Statins showed impact on MINOCAs prognosis, with a significant reduction in total mortality Hazard Ratio (HR): 0.60 (95%Confidence Interval [CI]: 0.38-0.94) p 0.03. DAT had a non-significant reduction in total mortality (HR 0.64 [CI: 0.37-1.13] p 0.12). The rest of the OMT of IHD showed no significant impact on total mortality: beta blockers (HR 0.84 [CI: 0.54-1.31] p 0.45) and ACEI (1.30 [CI: 0.83-2.03] p 0.25)

None of the OMT had impact on MACE after MINOCA: DAT (HR 0.97 [CI:0.70-1.35] p 0.87), beta blockers (HR 0.92 [CI:0.69-1.23] p 0.57), ACEI (1.13 [CI: 0.85-1.51] p 0.40) and statins (0.94 [CI:0.69-1.30] p 0.74).
Conclusion:
This study suggests that statins may be linked with a better prognosis in MINOCA, whereas the rest of conventional IHD treatments showed no difference in the course of the illness. This could be due to the heterogeneity of physiopathological mechanisms underlying the working diagnosis of MINOCA. So, following the 2016 ESC-WGPP on MINOCA recommendations, a deep diagnostic study must be performed in order to individualize the treatment.