

Sex disparities in lipid-lowering therapy and dyslipidemia control in a coronary rehabilitation program

T. Proenca, R. Alves Pinto, M. Martins Carvalho, C. Costa, F. Amador, J. Calvao, A. Cabrita, C. Marques, C.X. Resende, P.D. Grilo, S. Torres, J. Rodrigues, V. Araujo, P. Dias, F. Macedo

Sao Joao Hospital, Porto, Portugal

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Introduction: Lipid control is one of the most important secondary cardiovascular prevention targets. Although cardiovascular disease is the most common cause of death for both genders, several studies have consistently shown that women are less likely to receive guideline-recommended secondary prevention medications after an acute coronary syndrome (ACS).

Purpose: To compare sex disparities in dyslipidemia control in a secondary prevention population with ACS in light of the ESC Dyslipidemia Guidelines.

Methods: We retrospectively analysed all patients who participated in a Coronary Rehabilitation Program (CRP) after an ACS from January 2011 to October 2019. Clinical data was collected at presentation and during 12 months follow-up. Doses of atorvastatin ≥ 40 mg, rosuvastatin ≥ 20 mg or a combination of a statin and ezetimibe were considered high-intensity LDL-lowering therapy (HIT).

Results: Of a total of 881 patients enrolled, mean age 55.0 ± 10.0 year-old, 16.1% were female. At baseline there were no differences respecting clinical features between genders. At admission, 51.4% of patients had ST-elevation myocardial infarction and, concerning to cardiovascular risk factors, 63% patients had dyslipidemia, 46% had hypertension, 19% were diabetic, 76% were smokers or previous smokers, 27% had family history of coronary disease and 12% had previous coronary disease (ACS

or $>50\%$ coronary artery stenosis). At hospital admission, females and males had similar mean LDL-levels [120.7 vs 118.1 mg/dL, $t(708)=0.691$, $p=0.496$]. The vast majority of patients from both genders were prescribed with statins on hospital discharge (99.5%) and maintain it during follow-up (99.3%). Female patients received more HIT during follow-up (67.8% vs 53.9% at baseline, $p=0.015$; 75.6% vs 59.0% after CRP, $p=0.003$; and 79.8% vs 65.1% at 1-year-follow-up, $p=0.007$). During follow-up, at the end of the CRP (about 3 months after event), male patients exhibit a better control of LDL [82.0 vs 75.6 mg/dL, $t(597)=2.4$, $p=0.016$] with 12.8% vs 16.4% below 55 mg/dL and 29.8% vs 44.5% below 70 mg/dL ($p=0.008$). At 1-year follow-up, both genders exhibited similar LDL-control due to a worsening control of the male population (81.9 vs 80.6 mg/dL, $t(540)=0.52$, $p=0.605$). Only 13.3% of females had LDL below 55 mg/dL (vs 12.9%, $p=0.921$) and 32.5% below 70 mg/dL (vs 37.0%, $p=0.432$).

Conclusion: This real-life study showed that guideline recommended LDL target is not achieved in the majority of patients, even under a structured CRP. Unlike other reports, there were more women receiving potent anti-dyslipidemic therapy. Nevertheless, women showed a poor control of LDL-concentration after three months of ACS and a similar control after 1-year; this highlights the uncertainties concerning the efficacy of lipid-lowering therapy in women, an underrepresented population in clinical trials.