

Coronary lesion complexity in patients with familial hypercholesterolemia hospitalized for an acute myocardial infarction: data from the French RICO Survey

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Background: Although patients with familial heterozygous hypercholesterolemia (FH) are at high risk of early myocardial infarction (MI), coronary artery disease (CAD) burden of FH patients with acute MI remains to be investigated.

Methods: All consecutive patients hospitalized for an acute MI in a multi-center database (RICO) from 2012–2017 who underwent coronary angiography were considered. FH (n=86) was diagnosed using Dutch Lipid Clinic Network criteria (score ≥ 6). The angiographic features of FH patients were compared with patients without FH (score 0–2) (n=166), after matching for age, sex and diabetes (1:2).

Results: When compared with patients without FH, patients with FH had higher prevalence of personal and familial history of CAD (17 vs 5%, and 74

vs 5%, p=0.002 and p<0.001, respectively), and hypertension (54 vs 36%, p=0.006). Chronic statin treatment was used in only 45% of FH patients. At coronary angiography, FH had increased extent of CAD (SYNTAX score 11 (4–21) vs 8 (3–16), p=0.049) and multivessel disease (58% vs 43%, p=0.021). Significant stenosis was more frequent in left and right marginal coronary arteries. FH patients showed a trend toward more complex lesions, with less thrombus (28 vs 39%, p=0.076), but a 2 times higher rate of bifurcation lesions and calcifications (23 vs 12% and 20 vs 10%, p=0.021 and p=0.036).

Conclusions: This study addressing the coronary lesions features of FH patients with acute MI shows that FH patients had more severe CAD burden, and were characterized by complex anatomy features.