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Identifying familial hypercholesterolemia from registries of patients with acute myocardial infarction: an algorithm-based approach

Marianne Zeller^{*} (1), Claude Touzery (2), Yves Cottin (2), Michel Farnier (3), Tabassome Simon (4), Nicolas Danchin (5)
 (1) *Université de Bourgogne, INSERM U866, Dijon, France* – (2) *CHU Dijon, Bocage, Dijon, France* – (3) *Le Point Médical, Dijon, France* – (4) *APHP-Hôpital Saint-Antoine, URCEST, Paris, France* – (5) *APHP-Hôpital Européen Georges Pompidou (HEGP), Paris, France*
^{*}Corresponding author: marianne.zeller@u-bourgogne.fr (Marianne Zeller)

Background and aims Familial hypercholesterolemia (FH) is at very high risk of early myocardial infarction (MI). The prevalence of FH, which is estimated to be at least 1:500 in the general population, remains unclear in patients with acute MI. From databases of 2 French regional and nationwide registries of acute MI (RICO and FAST-MI, respectively), we aimed to determine FH prevalence by developing a specific algorithm.

Methods and results Consecutive patients with AMI ≤ 48 hours of onset included 1) in FAST-MI: during a one-month period in 213 institutions at the end of 2005 and 2) in RICO: from January 2001 December 2013 (≈ 13 y), were considered in the 2 databases. The algorithm was adapted from Dutch lipid clinic network criteria and was built upon 4 variables (i.e. LDL level and previous use of lipid lowering medications, premature and family history) to identify FH probability. The LDL level was adjusted on each type of lipid lowering medications and the probability of FH was defined taking into account missing data rate. Among the 7484 patients included in the RICO registry, 29.1% had premature vascular disease, 29.7% had familial history, 19.9% were under lipid lowering medications and 9.7% had LDL ≥ 5 mmol/L. FH prevalence was calculated as unlikely (72.6%), possible (24.6%) and probable /definite (2.8%).

Conclusion Our 4-variables algorithm is relevant to determine FH probability in databases from MI registries. In this large population reflecting routine clinical practice in acute MI, a high prevalence of FH was found, suggesting the opportunity for prevention strategies.

The author hereby declares no conflict of interest

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Incidence of cardiovascular events following myocardial infarction in France: an observational analysis using a claims database

François Philippe (1), Patrick Blin (2), Caroline Laurendeau (3), Stéphane Bouée^{*} (3), Laurie Levy Bachelot (4), Sandy Leproust (4), Gabriel Steg (5)
 (1) *Institut Mutualiste de Montsouris, Paris, France* – (2) *CHU Bordeaux, Pharmacologie, Bordeaux, France* – (3) *CEMKA, Bourg La Reine, France* – (4) *MSD France, Coubevoie, France* – (5) *APHP-Hôpital Bichat-Claude Bernard, Cardiologie, Paris, France*
^{*}Corresponding author: stephane.bouee@cemka.fr (Stéphane Bouée)

Objectives To describe the characteristics and treatments of patients having a myocardial infarction (MI) and estimate the incidence of cardiovascular events following the index MI, in the French Health Insurance database.

Method A cohort of patients who had a MI in France between 2007 and 2011 was extracted from a claim database: the Echantillon Généraliste de Bénéficiaires (a 1% representative sample of subjects covered by the general health insurance (?600,000 patients)). The incidence of cardiovascular events following the index MI was estimated using the Kaplan Meier method.

Results 1,977 subjects were identified with an index myocardial MI: 2/3 were males, mean age=67.2 y, 20.6% had diabetes, 37.6% hypercholesterolemia and 82.4% hypertension. Cumulative incidence rates for outcomes are shown in the table. All cause mortality at 3 years (including in-hospital death) was 27% (95% CI: 25.8-29.1). This incidence was high in the 3 months following the index MI stabilized thereafter.

Conclusion Despite high prescription rates of post-MI treatments, rates of all-cause mortality and CV events remained high following MI. This underscores the need to improve secondary prevention.

Abstract 0053 – Table

| | % patients treated | | |
|---|-----------------------------------|-------------------------|------------------------|
| | 6 months before index MI | 6 months after index MI | |
| Statins | 30.7% | 91.1% | |
| Ezetimibe | 3.6% | 4.9% | |
| Aspirine (Alone) | 59.9% | 11.6% | |
| Aspirine+P2Y12-I* | 23.9% | 76.0% | |
| Class III Antiarrhythmic | 2.4% | 8.4% | |
| Oral Anticoagulant | 5.1% | 10.1% | |
| Non-Thiazide Diuretics | 19.1% | 32.9% | |
| ACE Inhibitors | 18.6% | 71.0% | |
| Beta-Blockers | 26.5% | 86.0% | |
| Nitrates | 9.9% | 46.4% | |
| Other Antihypertensives** | 40.2% | 30.3% | |
| | Cumulative incidence rate (95%CI) | | |
| | 1 year | 2 year | 3 year |
| All cause deaths*** | 17.8% (16.0%;19.5%) | 21.6% (20.7%;23.5%) | 27.0% (25.8%;29.1%) |
| Recurrent MI | 3.1% (2.3%;3.8%) | 4.1% (3.2%;5.0%) | 4.7% (3.7%;5.7%) |
| Stroke orTIA | 1.9% (1.3%;2.5%) | 3.1% (2.3%;3.9%) | 4.1% (3.1%;5.0%) |
| Composite of death***/ reinfarction/stroke | 20.7% (18.9%;22.5%) | 26.0% (24.0%;28.0%) | 32.1% (29.8%;34.3%) |

* mostly clopidogrel

**thiazide diuretics, angiotensin II receptor blockers, CCBs

*** including in-hospital deaths

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Obstructive sleep apnea in acute coronary syndrome patients: prevalence and long-term prognosis

Silvia Leao^{*}, Pedro Magalhaes, Filipa Cordeiro, Bebiana Conde, Pedro Mateus, Paulo Fontes, Ilidio Moreira
Centro Hospitalar de Trás-os-Montes e Alto Douro, Vila Real, Portugal
^{*}Corresponding author: silvia.carneiro.leao@gmail.com (Silvia Leao)

Background Obstructive Sleep Apnea (OSA) is frequently associated with cardiovascular disease. Its diagnosis seems to be related with poor prognosis.

Aim To determine the prevalence of OSA in patients with acute coronary syndrome (ACS). Evaluate the prognostic impact of OSA and CPAP therapy in these patients.

Methods Prospective study of 73 patients diagnosed with ACS. A polysomnography was performed in all patients. An Apnea-hypopnea index > 5 was considered diagnostic of OSA and patients were referred to CPAP therapy. We evaluated the occurrence of the primary composite endpoint of death, myocardial infarction and revascularization.

Results The prevalence of OSA was 63.0%. The average age (62.4 \pm 11.3) was similar in both groups. Gender and cardiovascular risk factors were not significantly different between groups. Patients were admitted for Non-ST elevation ACS in 60.3% and for ST elevation ACS