Determinants of revascularization and outcomes in patients with suspected/known CAD

A. Gimelli[1], R. Liga[2], T. Podlesnikar[3], M. Sredojevic[4], G. Pontone[5], M. Miglioranza[6], A. Sumin[7], A. Saraste[8], C.H. Sia[9], L.E. Sade[10], N. Maroz-Vadalazhskaya[11], J. Knuuti[12], B.A. Popescu[13], V. Delgado[14], D. Neglia[1]

[1]Fondazione Toscana Gabriele Monasterio, Pisa, Italy
[2]Azienda Ospedaliero-Universitaria Pisana, Cardio-thoracic and vascular department, Pisa, Italy
[3]University Medical Centre of Ljubljana, Ljubljana, Slovenia
[4]Izola General Hospital, Izola, Slovenia
[5]Centro cardiologico Monzino, Milan, Italy
[6]Federal University of Health Sciences of Porto Alegre, Porto Alegre, Brazil
[7]Research Institute for Complex Issues of Cardiovascular Diseases, Kemerovo, Russian Federation
[8]Turku University Hospital, Turku, Finland
[9]National University Heart Centre, Singapore, Singapore
[10]Baskent University, Ankara, Türkiye
[11]Belarusian State Medical University, Minsk, Belarus
[12]Turku PET Centre, Turku, Finland
[13]Carol Davila University Of Medicine And Pharm, Bucharest, Romania
[14]Germans Trias i Pujol University Hospital, Barcelona, Spain
On behalf of EURECA Registry

Funding Acknowledgements: None.

Introduction: The recent prospective, multicenter EURECA registry, performed in 24 ESC and affiliated countries, showed that the diagnostic process of patients with chronic coronary syndrome (CCS) is frequently not adopting the 2019 ESC CCS Guidelines.

In the present analysis, we aimed to evaluate the major determinants of therapeutic management choices in the EURECA population and the impact of the final clinical diagnosis on treatment.

Methods: Among the 5156 patients enrolled in the EURECA registry between May 2019 and March 2020, data from 4175 patients (81%) (64 years, 59% males) with information on the early management choices (within 6 months from enrolment) were analysed. Treatment choices considered were revascularization, optimization in medical treatment (OMT), and no revascularization or treatment change. Patients were subdivided into 4 diagnostic groups: 1.no coronary artery disease (CAD); 2.non-obstructive CAD; 3.obstructive CAD without inducible ischemia; 4.obstructive CAD with inducible ischemia.

Results: Revascularization was performed in 581 patients (10.9%), OMT (new therapy or increase of previous therapy) in 1051 patients (25.2%), while 2543/4175 patients (60.9%) did not receive any intervention or treatment change. Patients treated with OMT or revascularization had a progressively more severe risk profile than those in whom no treatment was implemented, including a higher prevalence of major cardiovascular risk factors, more severe symptoms burden, and QoL measures, more depressed LV ejection fraction, and more frequent history of CAD. At multivariate analysis independent predictors of more intense treatment were enrolment in cardiology department (OR 1.55, 95% CI 1.304-1.832), typical angina (OR 1.96, 95% CI 1.687-2.272), hypertension (OR 1.29, 95% CI 1.105-1.493), any positive non-invasive test.

No CAD, non-obstructive CAD, obstructive CAD, and inducible ischemia were documented in 37%, 38%, 25%, and 20% of patients, respectively. The frequency of therapeutic interventions by OMT or revascularization paralleled the severity of disease diagnosis, increasing from Group 1 (0% and 19%) to Group 2 (0.3% and 34%), to Group 3 (60% and 21%) or Group 4 (61% and 18%) (Figure 1). OMT was more frequent in patients with non-obstructive CAD than in those with no CAD ($P<0.001$), even if still in 65% of patients treatment was unchanged. Revascularization frequency was higher in patients diagnosed with obstructive CAD than with ischemia (60% vs 49% $P<0.001$) and independent of the association of obstructive CAD with ischemia (Figure 1).

Conclusions: In patients with CCS, the intensity of treatment management is mainly determined by the estimated clinical risk and the positive results of non-invasive testing. The diagnosis of obstructive CAD drives revascularization procedures, independently of the presence of inducible ischemia. The diagnosis of non-obstructive CAD or inducible ischemia is associated with a suboptimal treatment.

Figure 1