CCS patients with polyvascular disease are a high risk but heterogenous subset of patients: insights from the CLARIFY registry

A. Gautier[1], G. Ducrocq[1], Y. Elbez[1], R. Ferrari[2], I. Ford[3], K.M. Fox[4], J.C. Tardif[5], M. Tendera[6], P.G. Steg[1]

[1]Bichat Hospital, University Paris-Diderot, INSERM-UMR1148, FACT French Alliance for Cardiovascular T, Paris, France; [2]Maria Cecilia Hospital, Cotignola, Italy; [3]University of Glasgow, Glasgow, United Kingdom; [4]Royal Brompton Hospital Imperial College London, London, United Kingdom; [5]Montreal Heart Institute, Montreal, Canada; [6]School of Medicine in Katowice, Medical University of Silesia, Katowice, Poland

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Introduction: Polyvascular disease constitutes a powerful predictor of cardiovascular events, is found in 10 to 15% of chronic coronary syndromes (CCS) patient. Smoking and diabetes mellitus are strongly associated with polyvascular disease. Risk stratification is key to select the most appropriate therapeutic strategy for a given patient.

Purpose: We aimed to describe 5-year ischaemic risk of CCS patients according to vascular disease phenotype and diabetic or smoking status.

Method: We analyzed data from 32 703 consecutive CCS outpatients (45 countries) enrolled between November 2009 to June 2010 in the prospective observational CLARIFY registry. Three mutually exclusive groups were compared: Coronary artery disease (CAD) alone, CAD with peripheral artery disease (PAD) or cerebrovascular disease (CVD) (CAD+1), CAD with CVD and PAD (CAD+2). Primary outcome was a composite of cardiovascular death, myocardial infarction or stroke, adjusted on age, sex and geographic origin at 5 years.

Results: At baseline, 26440 (80.8%) patients were diagnosed with CAD alone, 4967 (15.2%) had CAD+1, 1296 (4%) had CAD+2. Overall, 9501 (29%) patients were diabetics, 19184 (58.7%) were smokers or ex-smokers and only 9220 (28.2%) were free of these two major cardiovascular risk factors. Primary outcome increasing gradually according to the number of arterial diseases locations from 8.4% (95% CI 8.09–8.73) in patients with CAD alone to 17.4% (95% CI 16.95–17.83) of CAD+2 patients ($p<0.001$). Subgroup analysis according to diabetes or smoking status further enriched risk stratification from 7% (95% CI 6.48–7.59) in non-diabetic, non-smoking CAD alone patients to 20.3% (95% CI 19.08–21.44) in diabetics and smokers CAD+ 2 patients (Figure 1). Diabetic CAD alone patients had a comparable risk to that of non-diabetic and non-smoking polyvascular patients, 9.8% (95% CI 8.82–10.68) vs 10.3% (95% CI 9.61–10.96), p=0.38. Outcome was similar between polyvascular diabetic patients, regardless of the number of arterial diseases, 15.5% (95% CI 14.31–16.60) for CAD+1 and 15.0 (95% CI 13.88–16.13) for CAD+2, p=0.83. Smoking increased 5-year risk proportionally to the number of symptomatic arterial bed, 8.2% (95% CI 7.72–8.68) vs 11.8% (95% CI 11.18–12.31) vs 17.9% (95% CI 17.18–18.54), respectively for CAD alone, CAD+1 and CAD+2.

Conclusion: CCS patients with polyvascular disease remain at high risk of ischaemic events in the contemporary practice with widespread secondary prevention therapies. Polyvascular is a very heterogenous subset of patients with ischaemic risk varying not only according to the number of vascular bed diseased but also according to smoking and diabetes status, two conditions present in the vast majority of CCS patients. Diabetes confers upfront a maximal increased risk. Identification of higher risk subsets in polyvascular patients can potentially identify those that could derived the greatest benefit from new secondary prevention strategies.

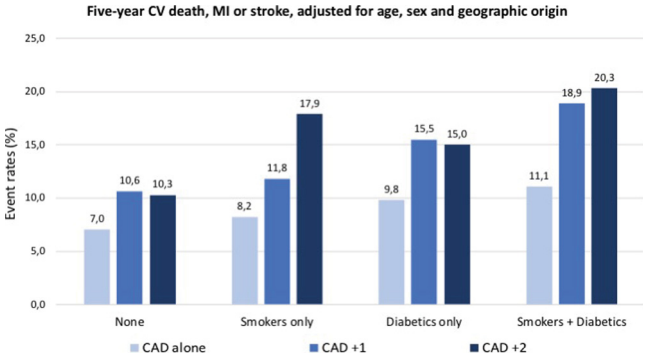

Figure 1