4181

Prognosis of patients with mid-range left ventricular ejection fraction treated with PCI: insight from the global leaders study

P. Chichareon[1], R. Modolo[1], N. Kogame[1], M. Tomaniak[2], E. Teiger[3], E.F. Quintella[4], M. Almeida[5], C. Hamm[6], G. Steg[7], P. Juni[8], P. Vranckx[9], M. Valgimigli[10], S. Windecker[10], Y. Onuma[2], P.W. Serruys[11]

[1]Amsterdam University Medical Center, Amsterdam, Netherlands (The); [2]Erasmus Medical Centre, Rotterdam, Netherlands (The); [3]University Hospital Henri Mondor, Creteil, France; [4]Instituto Estadual Cardiologia Aloisio De Castro, Rio de Janeiro, Brazil; [5]Hospital de Santa Cruz, Lisbon, Portugal; [6]Kerckhoff Heart and Thorax Center, Bad Nauheim, Germany; [7]Hospital Bichat-Claude Bernard, Paris, France; [8]St. Michael's Hospital, Toronto, Canada; [9]Virga Jesse Hospital, Hasselt, Belgium; [10]Preventive Cardiology & Sports Medicine, Inselspital Bern, Bern, Switzerland; [11]Imperial College London, London, United Kingdom

Background: Heart failure with mid-range ejection fraction (left ventricular ejection fraction between 40 to 49%) was introduced in the 2016 European Society of Cardiology guidelines for heart failure. The prognosis of the mid-range of left ventricular ejection fraction (LVEF) was less well assessed in patients treated with percutaneous coronary intervention (PCI).

Purpose: We aimed to assess the 2-year outcomes of patients with mid-range ejection fraction (LVEF between 40 to 49%) after PCI compared with reduced LVEF (<40%) and preserved LVEF (≥50) in the GLOBAL LEADERS study.

Methods: The GLOBAL LEADERS study was a multicenter, randomized trial comparing the efficacy and safety of two antiplatelet strategies in all-comers patients undergoing PCI with biolimus-A9 eluting stent.

Patients with available information of LVEF were eligible in the present analysis. Patients were classified according to their LVEF into three groups; preserved (LVEF ≥50), mid-range (LVEF 40–49%) and reduced (LVEF <40%) left ventricular ejection fraction. Clinical outcomes at 2 years after PCI were compared among three groups in the multivariable Cox regression analysis.

The primary outcome of present study was all-cause mortality at 2 years after PCI. The secondary outcomes were patient-oriented composite endpoint (POCE). Individual components of the composite endpoint, definite or probable stent thrombosis and bleeding academic research consortium (BARC) type 3 or 5 were also reported.

Results: Out of 15968 patients included in the GLOBAL LEADERS study, information of LVEF was available in 15008 patients (93.99%); 12,128 patients (80.81%) were in the group of preserved LVEF, 1,737 patients (11.57%) were in the mid-range LVEF group and 1,143 patients (7.62%) were in the reduced LVEF group.

The risk of all-cause mortality and POCE at 2 years were significantly different among the three groups. In an adjusted model, compared with the group of preserved LVEF, the hazard ratio for the all-cause mortality at 2 years rose from 1.89 (95% CI, 1.46–2.45) to 3.72 (95% CI, 2.95–4.70) in the group of mid-range and reduced LVEF respectively. Similar rises were observed for the POCE at 2 years from 1.27 (95% CI, 1.11–1.44) in the group of mid-range LVEF to 1.63 (95% CI, 1.42–1.87) in the group of reduced LVEF.

The risk of stroke, myocardial infarction, and definite or probable stent thrombosis in patients with mid-range LVEF was not different from patients with reduced LVEF (see figure). A similar risk of revascularization was observed among the three groups.

Conclusion: Patients with mid-range LVEF undergoing PCI had a different prognosis from patients with reduced LVEF and preserved LVEF in term of survival and composite ischemic endpoints at 2 years.
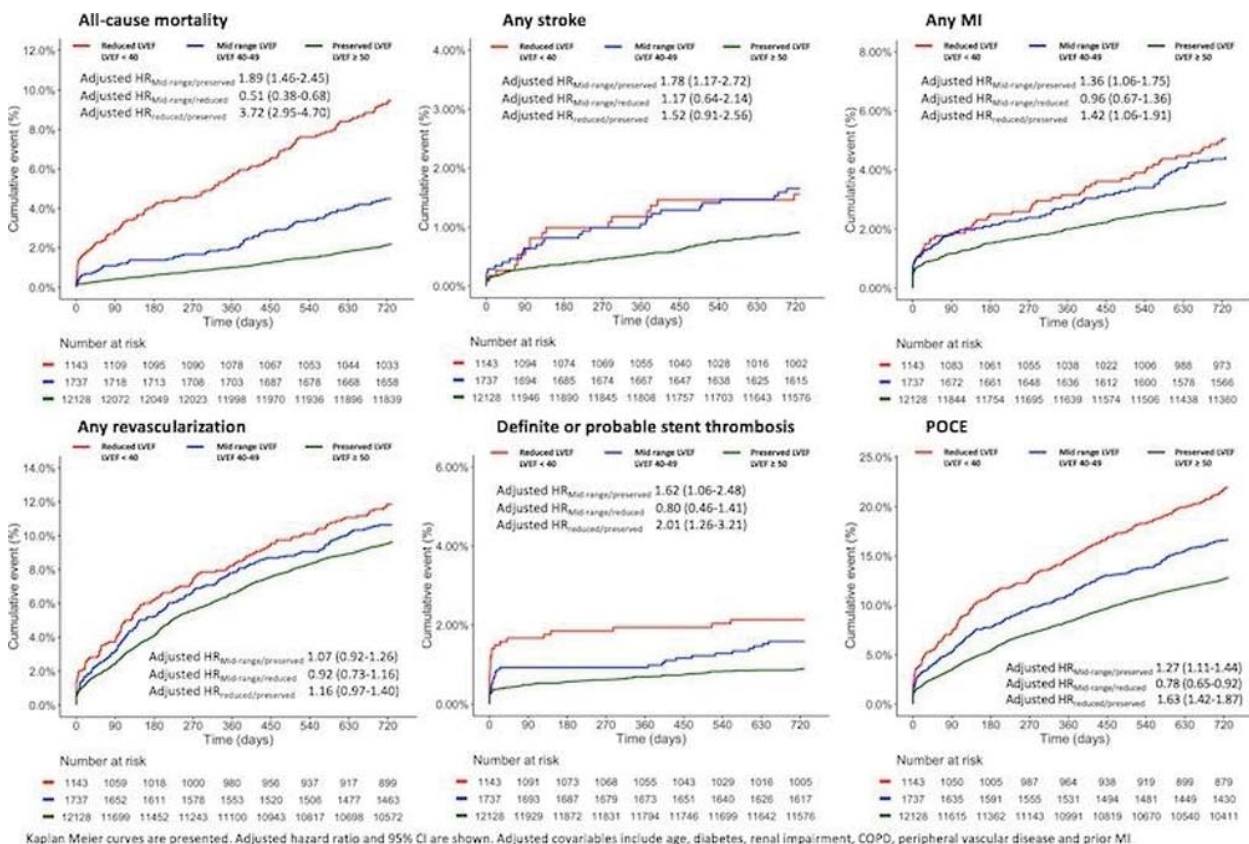
Outcomes among three LVEF categories