Management of patients with left main stem stenosis in Iceland 2010–2020: PCI or CABG?

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Introduction: Coronary artery bypass surgery (CABG) has been standard treatment for patients with left main coronary artery disease (LMCAD) but percutaneous coronary intervention (PCI) is a good alternative in selected patients. Our purpose was to evaluate the prevalence of LMCAD in Iceland, the impact of background factors on treatment choices, and treatment changes in recent years with respect to current guidelines.

Methods: This retrospective, population-based study analyzed data from the SCAAR-SWEDEHEART database. Patients with significant LMCAD on coronary angiography in Iceland 2010–2020, without previous history of CABG or contraindication for surgery were enrolled. Survival analysis was estimated with Kaplan-Meier and COX regression analysis for investigating the association between survival time and predictor variables.

Findings: Of 702 patients with LMCAD, 195 were treated with PCI, 460 with CABG and 47 with medical treatment only. The widest age range was in the PCI group and the mean age was highest in the medical therapy only group (p<0.001). Patients with LMCAD and either three vessel disease or heart valve disease were most often treated with CABG (76.1% and 84.4%, p<0.001). The majority of patients with LMCAD only were treated with PCI, as were patients with STEMI or cardiogenic shock (67.1% and 70.0%, p<0.001). The proportion of patients treated with PCI increased from 19.8% in 2010–2015 to 42.7% in 2016–2020. There was no significant difference in survival between PCI and CABG (p=0.41).

Conclusions: In patients with LMCAD the main factors that affect treatment choice are age, anatomical complexity and acuteness. Treatment choice appears to be in keeping with current guidelines. There is no significant difference in long term survival between PCI and CABG groups but the groups are different. There has been a significant increase in patients treated with PCI in recent years.