

中文題目：比較完全血管重建藉由冠狀動脈繞道手術與經皮冠狀動脈介入治療在有症狀左心室收縮功能減退之患者的影響

英文題目：The Impact of Complete Revascularization in Symptomatic Severe Left Ventricular Dysfunction Between Coronary Artery Bypass Graft and Percutaneous Coronary Intervention

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Background: The study aimed to determine whether coronary artery bypass surgery (CABG) or percutaneous coronary intervention (PCI) should be preferred in patients with symptomatic New York Heart Association (NYHA) functional class more than 3 and severe left ventricular (LV) dysfunction coronary artery disease.

Method: We retrospectively enrolled 745 patients who received coronary artery angiography for reduced LV ejection fraction (LVEF) <40% between February 2007 and February 2020. The patients (N = 236) who were diagnosed with dilated cardiomyopathy or valvular heart disease without coronary artery stenosis, those with prior history of CABG or valvular surgery (N = 59) and ST segment elevated myocardial infarction (STEMI) and coronary artery disease (CAD) with SYNTAX score ≤ 22 (N = 175), and those who received emergent CABG for coronary perforation (N = 3) and had an NYHA class ≤ 2 (N = 65) were excluded. There were 116 patients with reduced LVEF and had a SYNTAX score >22 who received CABG (N = 47) and PCI (N = 69) who were enrolled into this study.

Results: There was no significant difference in the incidence values of in-hospital course and those of in-hospital mortality, acute kidney injury, and post-procedural hemodialysis. There was no significant difference in the 1-year follow-up of recurrent MI, revascularization, or stroke between groups. The 1-year heart failure (HF) hospitalization rate was significantly lower in the CABG group than in the all PCI revascularization group (13.2% vs. 33.3%, $p = 0.035$); however, there was no significant difference in this same variable between the CABG group and PCI complete revascularization group (13.2% vs. 28.2%, $p = 0.160$). The revascularization index (RI) was significantly higher in CABG group CABG group than all PCI group or complete revascularization PCI group (0.93 ± 0.12 vs. 0.71 ± 0.25 , $p < 0.001$) and (0.93 ± 0.12 vs. 0.86 ± 0.13 , $p = 0.019$). The 3-year HF hospitalization rate was significantly lower in the CABG group than in the all PCI revascularization group (16.2% vs. 42.2%, $p = 0.008$); however, there was no difference in this same variable between the CABG group and PCI complete revascularization group (16.2% vs. 35.1%, $p = 0.109$).

Conclusion: In patients with symptomatic (NYHA class more than 3) severe LV dysfunction CAD, CABG yields higher mortality rates not only in 1-year follow-up but also in 3-year follow-up that resulted from the higher surgical risk and higher SYNTAX score. Once patients with symptomatic severe LV dysfunction CAD survived after CABG, they often had improved LV function and less HF admission. Therefore, an extensive revascularization, achieved by CABG or PCI, is associated to a lower HF hospitalization rate.