We read with great interest the article by Jarral et al. concerning the best surgical management in patients with coronary artery disease with left ventricle dysfunction, undergoing surgical revascularization [1]. The authors have reviewed a vast number of published articles. They included in the results of their research 17 studies, comprising of one prospective randomized trial (124 patients), one meta-analysis and 15 retrospective studies. Two additional randomized studies have addressed the question raised by the authors, the Randomized On/Off Bypass (ROOBY) trial [2] and the Coronary Artery Bypass Surgery (CABG) Off or On Pump Revascularization Study (CORONARY) trial [3]. The results of latter publication were fully published recently. In order to be exhaustive, we will summarize the relevant results regarding only patients with left ventricle dysfunction of the above-mentioned studies.

The CORONARY trial [3] is the largest prospective, randomized trial involving 4752 patients, conducted at 79 centres in 19 countries. There was no significant difference between off-pump and on-pump CABG with respect to the rate of death, nonfatal myocardial infarction, nonfatal stroke or renal failure requiring haemodialysis at 30 days after randomization. Subgroups analysis showed that there was no significant difference concerning the co-primary outcome in patients (244 patients) with left ventricle dysfunction at one month after randomization (Ejection fraction of the left ventricle between 20% and 34%, Off-pump N = 118 patients and On-pump N = 126, Hazard Ratio: 0.91(0.47-1.74), p = 0.77).

In 2009, the ROOBY trial [2] which involved 2203 male patients in 18 Veterans Affairs medical centres, showed no advantage for off-pump CABG either at 30 days or at one year after surgery. There was no significant difference between the two groups in the primary short-term (before discharge or within 30 days after surgery) composite outcome of death or postoperative complications. However, at one year follow-up, patients in the beating-heart technique group experienced worse composite outcomes (death from any cause, repeat revascularization procedure or nonfatal myocardial infarction) than patients in the on-pump group. One hundred and twenty two patients with poor left ventricle function (<35%) were enrolled in this study (Off-pump N = 61 patients and On-pump N = 61) and the authors of this trial clearly stated that the conclusion can be generalized to subgroups of high risk candidates [4], including patients with severe left ventricle dysfunction. It is worth noting that the true efficacy of off-pump CABG could possibly be determined through a longer term follow-up.

References