
The fate at mid-term follow-up of the on-pump vs. off-pump coronary artery bypass grafting surgery.

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Abstract

AIMS:

To evaluate the fate of on-pump coronary artery bypass grafting (ON-pump CABG) vs. off-pump coronary artery bypass grafting (OP-CABG) surgery at mid-term follow-up.

METHODS:

From January 2008 to December 2010, 369 patients underwent surgical myocardial revascularization by means of OP-CABG techniques (n = 166) or with ON-pump CABG (n = 203). Data of the two groups of patients were retrospectively analyzed.

RESULTS:

As compared with OP-CABG, in the ON-pump CABG patients, mean value of Logistic EuroSCORE (8.1 ± 7.8% vs. 6.2 ± 5.9%, P = 0.04), more extended coronary disease (2.7 ± 0.5 vs. 2.5 ± 0.7 diseased vessels/patient, P < 0.001) consequently requiring greater number of grafts/patient (2.9 ± 0.9 vs. 2.3 ± 0.9, P < 0.0001), and emergency surgery (12 vs. 6%, P = 0.03) were more frequently observed. Operative mortality was 1.9% in ON-pump CABG vs. 1.2% in OP-CABG (P = 0.6) and incidence of stroke 2.46 vs. 1.81% (P = 0.7). The incidence of stroke was reduced at 1.2% when OP-CABG PAS-Port 'clamp-less' technique was used. Intraoperatively, costs per patient were higher for OP-CABG vs. ON-pump CABG (1.930,00 +1.050,00 €, if PAS-port system was included, vs. 1.060,00 € for ON-pump surgery). ICU stay (1.9 ± 1.0 days vs. 1.4 ± 0.7 days) and total postoperative in-hospital stay (5.3 ± 3.3 days vs. 5.5 ± 3.5 days) were similar in both groups. At 4 years, survival (91 ± 13% in the ON-pump CABG vs. 84 ± 19% in the OP-CABG), freedom from major adverse cardiac events (composite end-point of all-cause death, myocardial infarction, and repeat coronary revascularization of the target lesion) (82 ± 9% vs. 76 ± 14%), and major adverse cardiac and cerebrovascular events (80 ± 11% vs. 72 ± 16%) were not significantly different. Freedom from late cardiac death was slightly significant higher after ON-pump CABG (98 ± 4% vs. 90 ± 10%, P = 0.05).

CONCLUSION:

Mid-term freedom from composite end-points is similar after ON-pump CABG and OP-CABG. Freedom from cardiac death appears to be better after ON-pump CABG. OP-CABG needs for more expensive surgical technique. OP-CABG performed by an experienced surgical team using 'clamp-less' techniques can be an effective strategy in reducing postoperative stroke.