

Coronary artery by-pass surgery in elderly patients: Results of on-pump and off-pump techniques

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Background

Conventional coronary artery bypass grafting (CCABG), performed with the use of cardiopulmonary bypass, is a well-validated treatment of patients with ischaemic heart disease. Off-pump coronary artery bypass grafting (OPCAB) has been suggested to reduce the number of peri-operative complications, especially in elderly patients.

Material and methods

In a multicentre, randomized trial, we assigned 900 patients above 70 years old to CCABG or OPCAB surgery. After 30 days, a blinded end-point committee assessed whether a combined endpoint of death, stroke, or myocardial infarction had occurred. At baseline and six months postoper-

atively, self-assessed quality of life (QoL) was measured using MOS SF-36 and EuroQoL-5D questionnaires. Six months follow-up of mortality was performed through the Danish National Registry.

Results

The proportion of patients experiencing the combined endpoint within 30 days was 10.2% for CCABG and 10.7 % for OPCAB. Implied risk difference of 0.4% with a CI of (-3.6%; 4.4%) showed non-significance in a standard test for equality (P=0.83) as well as for non-inferiority with an inferiority margin of 0.5% (P=0.49). At six months follow-up, mortality was 4.7% versus 4.2% (P=0.75). Both groups showed significant improvement in self-assessed, health related quality of life.

Table 1: Events at 30 days. Data are number (%). Tests are Fisher's exact test illustrated by point estimates with 95% confidence intervals. * Protocol led Farrington-Mannings' test of non-inferiority with a margin of 0.5%.

Event	CCABG n (%)	OPCAB n (%)	P	Risk difference % (CI)
Death	8 (1.8)	7 (1.6)	0.80	-0.22 (-1.89; 1.45)
Stroke	18 (4.0)	10 (2.2)	0.12	-1.78 (-4.04; 0.49)
Myocardial infarction	25 (5.6)	37 (8.2)	0.12	2.67 (-0.64; 5.86)
Death, stroke or infarct	46 (10.2)	48 (10.7)	0.82 /0.49*	0.44 (-3.55; 4.44) *

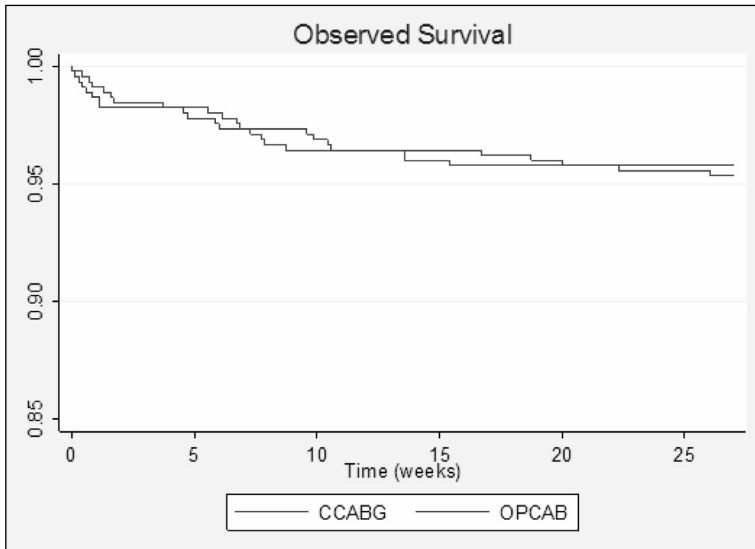


Figure 1: Observed survival during six months follow-up ($P=ns$).

Conclusion

Both CCABG and OPCAB are safe procedures improving quality of life when performed in elderly patients. No major differ-

ences in intermediate-term outcomes were found. However non-inferiority of OPCAB with the pre-specified margin could not be confirmed.