

Outcomes of coronary artery bypass grafts vs percutaneous coronary intervention in multivessel coronary artery disease. An observational study

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Abstract

Background: Availability of drug eluting stents (DES) made percutaneous coronary interventions (PCI) relatively more attractive as an alternative to coronary artery bypass graft (CABG) in patients with multivessel coronary disease. We compared clinical outcomes of CABG vs PCI, (DES only and PCI with bare metal stents (alone or in combination with DES) in patients with multivessel coronary disease.

Methods: Observational study, based on two cohorts of patients with multivessel coronary disease undergoing a revascularization procedure (2860 CABG, 2110 PCI) between July 2002 and December 2004 at 13 public and private hospitals of Emilia-Romagna Region, Italy. Information relevant to the study was retrieved through two clinical registries, prospectively collected by clinicians at each centre, and through record linkage procedures with administrative databases: the regional database of hospital admissions (SDO), the regional mortality registry (REM). Main outcome measures were four-year mortality (all cause and cardiac cause), incidence of acute myocardial infarction (AMI), stroke, and repeat revascularization.

Results: After adjustment for baseline patient characteristics, PCI had higher mortality for all causes (HR:1.28 CI 95% 1.09-1.5), cardiac death (HR: 1.49 CI 95% 1.15-1.93), AMI (HR: 2.26 CI 95% 1.84-2.77) and TVR (HR: 2.82 CI 95% 2.35-3.38). No statistically significant differences emerged for stroke (HR: 0.95 CI 95% 0.70-1.29). When CABG was compared with patients receiving PCI with DES only, results did not change.

Conclusions: In this observational study patients undergoing CABG for multivessel coronary disease had better outcomes than those treated with PCI, regardless the type of stents used.