

The impact of drug eluting stents availability on the treatment choice among medical therapy, percutaneous or surgical revascularisation and on 4-year clinical outcome in patients with coronary artery disease: a cohort study.

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OBJECTIVE: To investigate the influence of the availability of drug eluting stents (DES) on treatment choice (TC) among medical therapy (MT), coronary by-pass surgery (CABG) or percutaneous coronary interventions (PCI) and the consequent clinical outcomes in patients hospitalised because of coronary artery disease (CAD).

DESIGN: Observational study comparing two cohorts hospitalised immediately before, and 3 years after DES availability.

SETTING: Thirteen hospitals with cardiology facilities.

PATIENTS: 2131 consecutive patients with at least one coronary stenosis >50% at coronary angiography (CA) after exclusion of those with acute myocardial infarction or previous CABG or associated relevant valvular disease.

MAIN OUTCOME MEASURES: Treatment choice after CA and 4-year clinical outcomes.

RESULTS: TC among MT (27% vs 29.2%), PCI (58.6% vs 55.5%) and CABG (14.5% vs 15.3%) was similar in the DES and bare metal stent (BMS) periods ($p = 0.51$). At least one DES was implanted in 57% of patients treated with PCI in 2005. After 4 years, no difference in mortality (13.8% vs 13.2%, $p = 0.72$), hospital admissions for myocardial infarction (6.6% vs 5.2%, $p = 0.26$), stroke (2.2% vs 1.7%, $p = 0.49$) and further revascularisations (22.3% vs 19.7%, $p = 0.25$) were observed in patients enrolled in the DES and BMS periods. Only in patients with Syntax score 23-32 a significant change of TC ($p = 0.0002$) occurred in the DES versus BMS period: MT in 17.4% vs 31%, PCI in 62.2% vs 35.8%, CABG in 20.3% vs 33.2%, with similar 4-year combined end-point of mortality, stroke, myocardial infarction and further revascularisations (45.3% vs 34.2%, $p = 0.087$).

CONCLUSIONS: Three years after DES availability, the TC in patients with CAD has not changed significantly as well as the 4-year incidence of death, myocardial infarction, stroke and further revascularisations. In subgroup with Syntax score 23-32, a significant increase of indications to PCI was observed in the DES period, without any improvement of the 4-year clinical outcome.

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