

## **New-generation drug-eluting stents reduce stent thrombosis and myocardial infarction: a propensity-score-adjusted analysis from the multicenter REAL registry (REgistro Regionale AngiopLastiche dell'Emilia-Romagna)**

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### **Abstract**

#### **OBJECTIVES:**

The aim of this study was to compare long-term clinical outcomes in patients treated with new-generation drug-eluting stent (DES) or early-generation DES in a real-world registry.

#### **BACKGROUND:**

New-generation DESs have proved to be more effective and safer than early-generation DES in randomized trials. However, the effects of new-generation DES versus early-generation DES in everyday clinical practice deserve further verification.

#### **METHODS:**

A propensity-score and inverse-probability weighted analysis of 5,332 patients undergoing DES implantation (2,557 new-generation and 2,775 early-generation) between January 1, 2007 and June 30, 2011 was performed, with a median follow-up of 3 years. We assessed the incidence of major adverse cardiovascular events (MACE: all-cause death, nonfatal myocardial infarction [MI], and target vessel revascularization [TVR]), and angiographic stent thrombosis (ST) during follow-up.

#### **RESULTS:**

At 3-years, new-generation DES in comparison with early-generation DES were associated with a reduced risk of MI (5% versus 7.4%, hazard ratio [HR]=0.65, 95% confidence interval [CI]=0.51-0.82, P=0.0004) and angiographic ST (0.5% vs. 1.1%, HR=0.35, 95% CI 0.17-0.72, P=0.004), whereas, the risk of TVR (10.9% vs. 13.5%; HR 0.99, 95% CI 0.84-1.16, P=0.99) and overall MACE was not significantly different (19.2% vs. 22.4%, HR=0.94, 95% CI=0.83-1.07, P=0.35).

#### **CONCLUSIONS:**

Our data from a large all-comers multicenter registry confirm that, in comparison with early-generation DES, the use of new-generation DES is associated with similar efficacy and increased long-term safety, because of a reduced risk of ST and MI.