

Long-term Comparative Analysis from an All-Comer Cohort of Coronary Patients Treated Using First and Second Generation Drug Eluting Stents

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Background:

The long term safety and efficacy of 1st and 2nd generation drug eluting stents (DES) is of continued clinical importance.

Aim:

We aimed at exploring the potential differences in clinical outcomes between various DES types.

Methods and Results:

We followed 9,584 consecutive patients undergoing PCI at our institution (years 2004-2012, mean f/u duration 4 years). Patients treated with bare metal stents 5,599 (58.4%) were compared to 3,985 (41.5%) DES counterparts. The sirolimus eluting stent (SES) was taken as the prototype DES and compared to other DESs (e.g. Paclitaxel [P], Zotarolimus-Endeavor [ZE], Zotarolimus-Resolute [ZR], Everolimus [E] and Biolimus [B] ESs), using propensity matching. Primary outcome was the rate of composite endpoint of total mortality, MI, clinically driven TVR/CABG. At 3 years, the composite end point was significantly lower in the DES vs. BMS group (20.0% vs. 26.4%; $P < 0.001$).

The comparisons between SES with each one of the 5 other DESs, were very well balanced and did not yield significant differences for the 3 year primary composite endpoint: SES vs. PES (n=350 pairs; 18.1% vs. 17.7% p=NS), SES vs. ZEES (n=474 pairs : 21.8% vs. 23.2%, p=NS), SES vs. ZRES (n=434 pairs; 16.9% vs. 11.7% p=NS), SES vs. EES (n=824 pairs; 14.2% vs. 14.1%, p=NS) and SES vs. BES (n=117 pairs; 13.7% vs. 13.4%, p=NS).

Conclusions:

We found: 1) no differences in the cardiac prognosis between SES and other DESs, 2) the use of DES was associated with better clinical outcomes compared to BMS.