

Comparison of the safety and efficacy of between second-generation and first-generation drug eluting stents in patients with left main coronary artery stenosis: A systematic review and meta-analysis

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Abstract

Objective: The aim of this meta-analysis was to compare the safety and efficacy of second-generation and first-generation drug eluting stents (DES) for the treatment of left main coronary artery (LMCA) stenosis. **Background:** Studies have evaluated the safety and efficacy of between second-generation and first-generation DES in LMCA stenosis patients and the results of these studies were inconsistent. **Methods:** PubMed, EmBase and Cochrane Library were searched to identify eligible studies comparing the safety and efficacy of second-generation DES and first-generation DES for the treatment of LMCA stenosis. Odds ratios (ORs) with 95% confidence intervals (CIs) were used to summarize the estimates. **Results:** We identified 11 studies (1 was RCTs and 10 were observational studies) involving 4345 LMCA patients who treated with second-generation and first-generation DES. Second-generation DES had lower risk of MACE (15.4% vs.18.5%; OR 0.69 (0.52, 0.91); P=0.009), stent thrombosis (1.1% vs.2.4%; OR 0.46 (0.28, 0.74); P=0.001), TVR (6.8% vs.13.4%; OR 0.48 (0.35, 0.66); P<0.0001), and MI (1.6% vs.3.5%; OR 0.58 (0.35, 0.94); P=0.03) compared with first-generation DES. There were no differences in the risks of all-cause mortality (6.8% vs.7.9%; OR 0.88 (0.68, 1.15); P=0.36), cardiac mortality (3.4% vs.4.5%; OR 0.73 (0.51, 1.03); P=0.07), and TLR (8.7% vs.7.8%; OR 1.09 (0.86, 1.39); P=0.48) between second-generation and first-generation DES. **Conclusions:** In LMCA patients, compared with first-generation DES, second-generation DES was associated with lower risk of MACE, stent thrombosis, TVR, and MI. No differences were found with respect to all-cause death, cardiac death, and TLR. **Key words:** Second-generation stents; Drug-eluting stents; Percutaneous coronary intervention; Left main; Meta-analysis

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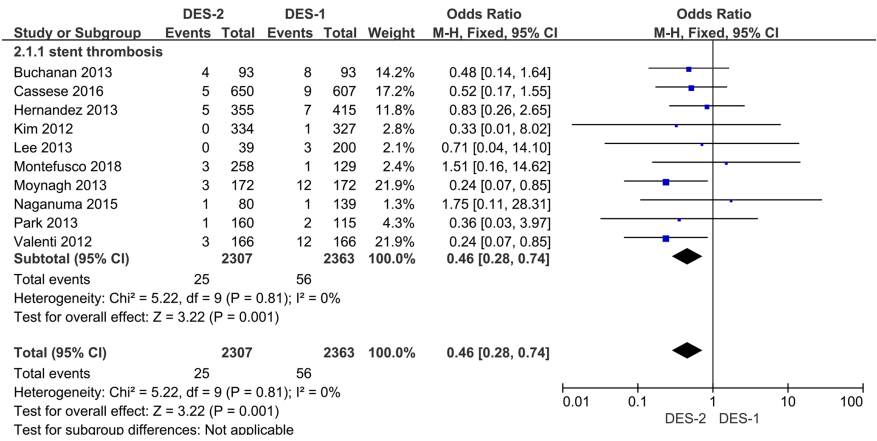
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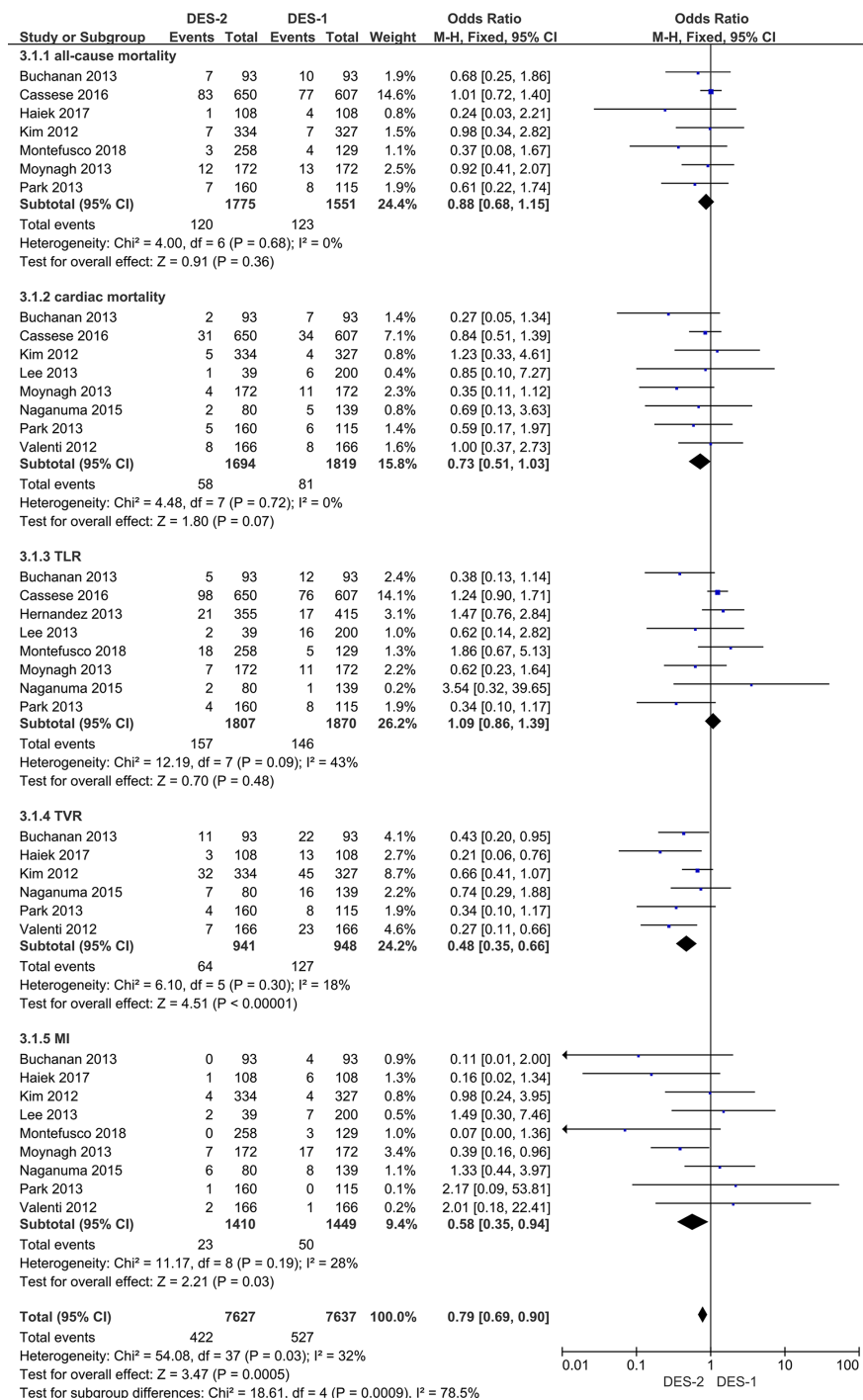
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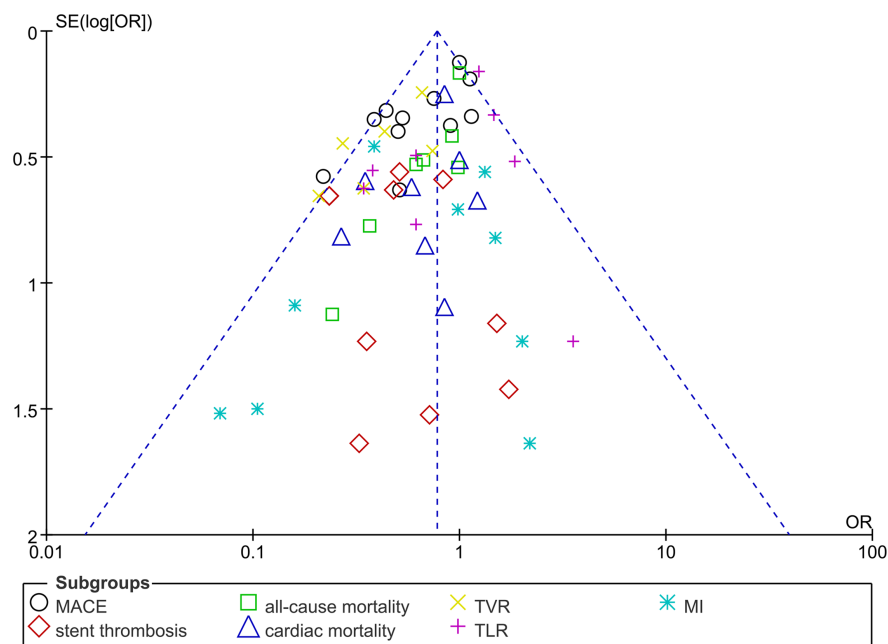
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