

Reduced Systemic Inflammatory Response to Implantation of Everolimus-Eluting Stents as Compared with Sirolimus-Eluting Stent in Patients with for Off-Label Indications

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Background Drug-eluting stents have been shown to be very effective in reducing target vessel revascularization. DES has been used with increasing frequency for off-label indications, but whether their safety and efficacy are different among the type of DES has never been reported. This study compares in the systemic inflammation markers, outcomes and complications in patients treated with for off-label indications between everolimus-eluting stent and sirolimus-eluting stent. **Methods and Results** Consecutive 210 patients (252 off label indications), who were treated with SES (134 patients, 160 lesions) and EES (76 patients, 92 lesions) were evaluated. Off-label indications included ostial, LMT, long, bifurcation, and in-stent restenotic lesions, CTO, small vessels, and STEMI. Outcomes and angiographic follow-up results were analyzed. Log hs-CRP and IL-6 were also measured before and 9-months after PCI. The prevalence of diabetes and the case of STEMI were higher and the lesion length was longer in EES than in SES group. Initial success rate was similar. However, % binary restenosis, target lesion revascularization (2.2% vs. 6.3%, $p < 0.05$), acute myocardial infarction (1.1% vs. 3.8%, $p < 0.05$) and stent thrombosis (0% vs. 3.1%, $p < 0.05$) were significantly higher in SES than in EES group. Log hs-CRP and IL-6 significantly decreased in EES 9-months after PCI as compared with before PCI (Log hs-CRP: pre 3.50 ± 0.40 post 2.99 ± 0.35 , IL-6; pre 6.66 ± 2.38 post 3.83 ± 1.98 , $p < 0.01$), but not SES group (both markers did not change before and 9-months after). **Conclusion** EES with for off label indications were associated with favorable reduction of restenosis, repeat revascularization, and outcome which might be induced by the stronger anti-inflammatory effects in the chronic phase as compared with SES.