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Comparison of Biolimus- and Everolimus-Eluting Stents in terms of Clinical Outcomes in Patients with Acute Myocardial Infarction

Background: Few studies have evaluated the safety and efficacy of BES compared with second-generation durable polymer-based Everolimus-eluting stents (EES) in patients who suffered an acute myocardial infarction (AMI).

Methods: From January 2008 to March 2012, a total of 12,557 AMI patients were enrolled in the Korea Working Group on Myocardial Infarction (KorMI) registry. From the KorMI registry, 3,017 patients (EES, n=2,729; BES, n=288) were successfully treated with an EES (Xience V; Promus Element™) or BES (BioMatrix™, Nobori) and had completed 12 months of clinical follow-up.

Results: In the overall population, there were no significant differences in the rates of device-oriented composite (4.0% vs. 4.2%, $p = 0.62$) and patient-oriented composite (6.7% vs. 6.6%, $p = 0.58$) end-points between the EES and BES groups after 12 months of follow-up. Likewise, in the propensity-score matched populations, the rates of device-oriented composite (4.9% vs. 3.8%, $p = 0.61$) and patient-oriented composite (8.1% vs. 6.5%, $p = 0.55$) end-points between the EES and BES groups were not statistically different).

Conclusion: This study showed the comparable safety and efficacy of BES and EES in AMI patients. Additional studies are needed to examine the long-term safety and efficacy of DES with regard to very late stent thrombosis.