Antithrombotic Therapy in BRS PCI

Seok Kyu Oh. MD, PhD
Department of Cardiology
Wonkwang University Hospital, Iksan, Korea

Stent thrombosis (ST) remains a severe complication after stent implantation owing to its high morbidity and mortality. Several factors are associated with an increased risk of ST, including the procedure itself (stent malappositiion and/or underexpansion, number of implanted stents, stent length, coronary dissection), patient and lesion characteristics, stent design, and premature cessation of antiplatelet therapy. So, current PCI guidelines recommended that dual antiplatelet therapy should be given for at least 12 months after implantation of DES.

The bioresorbable vascular scaffold (BVS) was developed to address long-term safety issues of metalic DES. The potential advantages of BVS include the preservaton of vessel geometry, adaptive vascular remodeling, and restoration of physiologic vasomotion. But several meta-analysis showed that patients treated with BVS had a higher incidence of scaffold thrombosis and MI. Mukete, et al. reported that the 1 year follow-up data of 6 trials with 5588 patients were analyzed. This meta-analysis showed that patients who received BVS han an increased risk of definite/probable scaffold thrombosis (1.3% vs 0.6%, OR 2.10, p=0.02) and MI (4.3% vs 2.3%, OR 1.63, p<0.01) compared with those treated with EES, Also, Toyota et al. reported that BVS as compared with EES was associated with higher risk for of vary late scaffold thrombosis between 1 and 2 years(OR 2.03) and scallold thrombosis through 2 years (OR 2.08). Puricel et al. reported that the incidence of probable and definite scaffold thrombosis was 1.8% at 30 days and 3.0% at 12 months.

Current PCI guidelines recommended that dual antiplatelet therapy should be given for at least 12 months after implantation of DES. But, the patients undergoing PCI with BVS may be considered the prolonged dual antiplatelet therapy beyond 12 months and more potent P2Y12 inhibitors such as prasugrel and ticagrelor.