BRS PCI Technique: How to Avoid Suboptimal Results

Joo-Yong Hahn

Heart Vascular Stroke Institute, Samsung Medical Center, Seoul, Korea

The current generation drug-eluting stents (DES) have demonstrated excellent safety and efficacy in patients with coronary artery disease undergoing percutaneous coronary intervention (PCI). However, adverse events occurred continuously even after implantation of the 2nd generation DES and the incidence of target vessel failure was reported to be 15~20% at 2~5 years. Bioresorbable scaffold (BRS) have been developed to provide mechanical support and drug-delivery function similar to those of DES for approximately 1 year, followed by complete bioresorption over several years. BRS has potential advantages of reducing the risk of late stent failure and maintaining normal vascular function because these novel devices are expected to leave no permanent materials within the vessel. However, patients treated with BRS had a higher risk of device-oriented composite outcome mainly driven by target vessel myocardial infarction compared to those with DES in the ARSORB II 3-year report. In addition to appropriate patient selection, device-specific implantation technique may improve outcomes of BRS. Adequate lesion preparation, proper sizing of scaffold, and postdilation preferably with non-compliant balloon may improve procedural success and long-term clinical outcomes of BRS. More caution is needed in special subset of lesions such as otial, bifurcation, and diffuse long lesions to avoid suboptimal results with BRS.