

Impact of Ezetimibe/Simvastatin on neointimal response to Biolimus-eluting stent Implantation

¹Division of Cardiology of Chonnam National University Hospital, Gwangju, ²Division of Cardiology of Chung-Ang University Hospital, Seoul, Korea

*Han Chul Lim¹, Young Joon Hong¹, Sang Wook Kim², Young Mi Cho², Ji Won Kim¹, Jung A Choi¹, Han Byul Kim¹, Min Chul Kim¹,
Doo Sun Sim¹, Ju Han Kim¹, Youngkeun Ahn¹, Myung Ho Jeong¹, Jeong Gwan Cho¹, Jong Chun Park¹

Background: Uncovered struts and stent malapposition are associated with the development of stent thrombosis after drug-eluting stent implantation especially in patients with acute myocardial infarction (AMI). No data are available on the process of neointimal coverage and late apposition status of Biolimus A9-eluting stent when implanted in the highly thrombogenic setting of AMI after statin treatment. **Objectives:** The aim of this study was to compare the neointimal response at 12-month follow-up between Ezetimibe/Simvastatin (Vytorin[®]) 10/10mg and Vytorin[®] 10/40mg after Biolimus A9-eluting stent [BioMatrix Flex] implantation in patients with AMI. **Methods:** A total of 19 patients requiring revascularisation were randomly assigned to receive either Vytorin 10/10mg (n=10) or Vytorin 10/40mg (n=9). Baseline optical coherence tomography (OCT) was performed post stent implantation, and follow-up OCT was scheduled at 12 months. So far, we performed follow-up OCT in 7 patients [Vytorin 10/10mg (n=4) or Vytorin 10/40mg (n=3)]. The primary endpoint was the percentage of uncovered struts at follow-up OCT in all cross-sections with analysis of 0.2 mm longitudinal intervals. **Results:** At follow-up, there were no significant differences in achieved LDL and the degree of decrease of LDL between both groups (69±9 mg/dL vs. 63±21 mg/dL and -41±11% vs. -58±6%, $p=0.655$ and $p=0.079$, respectively). At follow-up, the percentage of uncovered struts was not different significantly between both groups (3.5±3.9% vs. 11.2±6.2%, $p=0.099$). The percentage of malapposed struts was also similar between both groups (1.4±2.5% vs. 1.3±1.3%, respectively, $p=0.966$). Mean percent neointimal hyperplasia area was not different significantly between both groups (5.4±5.1% vs. 2.6±4.1%, $p=0.473$). In addition, the incidence of intra-stent thrombi was not different significantly in both groups (1/4 vs. 0/3, $p=0.350$). **Conclusions:** This OCT study showed that both high- and moderate-intensity of Vytorin[®] showed relatively lower percentage of uncovered struts and malapposed struts after Biolimus A9-eluting stent implantation in patients with AMI.

Impact of cannula size on clinical outcomes in venoarterial extracorporeal membrane oxygenation

¹Department of Internal Medicine, Samsung Medical Center, Sungkyunkwan University School of Medicine, ²Division of Cardiology, Department of Internal Medicine, Samsung Medical Center, Sungkyunkwan University School of Medicine

*Juwon Kim¹, Jeong Hoon Yang²

Background: Venoarterial extracorporeal membrane oxygenation (VA ECMO) is an effective mechanical circulatory support for cardiopulmonary failure. Conventionally, arterial cannula over 15Fr is inserted for full circulatory support in peripheral VA ECMO. However, limited data are available on clinical impact of cannula size. **Methods:** Between January 2014 and April 2016, 168 patients underwent peripheral VA ECMO were enrolled in a single-center registry. We classified patients into 2 groups according to the arterial cannula size: Group 1 (smaller arterial cannula with 14-15Fr, n=87) and Group 2 (larger arterial cannula with 16-24Fr, n=81). We compared the clinical outcomes and procedure related complications between the two groups. **Results:** In-hospital mortality (48.3% in Group 1 vs 42.0% in Group 2; $p=0.41$) and weaning success rate (70.1% in Group 1 vs 65.4% in Group 2; $p=0.52$) were not significantly different between the two groups. Group 1 showed significantly lower initial pump flow (3.2 [2.5-3.7] vs 3.5 [3.0-4.0] L/min; $p=0.01$) and ECMO duration time (3 [1-5] vs 4 [1-8] day; $p=0.01$). Limb ischemia was significantly lower in Group 1 than that in Group 2 (4.6% vs 14.8%; $p=0.02$). But other complications (including cannula site or non-cannula site bleeding, thrombotic events, coagulopathy and sepsis) were not significantly different between the two groups. **Conclusions:** In peripheral VA ECMO, small arterial cannula strategy showed similar clinical outcomes compared with large arterial cannula strategy. Additionally, small arterial cannula strategy provided advantage in terms of limb ischemia.