Abstract: **P4704**

The efficacy of intravascular ultrasound for patients with peripheral artery diseases presenting aorto-iliac artery disease

**Authors:**
T Tsujimura¹, O Iida¹, M Takahara², Y Yamauchi³, Y Shintani⁴, T Sugano⁵, Y Yamamoto⁶, D Kawasaki⁷, H Yokoi⁸, A Miyamoto³, T Mano¹, ¹Kansai Rosai Hospital, Cardiovascular Center - Amagasaki - Japan, ²Osaka University Graduate School of Medicine, Department of Metabolic Medicine - Osaka - Japan, ³Takatsu General Hospital, Cardiovascular Center - Kawasaki - Japan, ⁴Shin-Koga Hospital, Department of Cardiology - Fukuoka - Japan, ⁵Yokohama City University Hospital, Department of Cardiovascular Medicine - Yokohama - Japan, ⁶Iwaki Kyoritsu General Hospital, Department of Cardiovascular Medicine - Fukushima - Japan, ⁷Morinomiya Hospital, Cardiovascular Division, Department of Internal Medicine - Osaka - Japan, ⁸Fukuoka Sanno Hospital, Cardiovascular Center - Fukuoka - Japan,

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Background: The use of intravascular ultrasound (IVUS) promotes better clinical outcomes for intervention in complex lesions. However, the data demonstrating whether use of IVUS improves primary patency following stenting for aorto-iliac lesions in patients with peripheral artery disease (PAD) are limited.

Purpose: The purpose of the current study was to investigate the impact of IVUS use on primary patency 12 months after stent implantation for aorto-iliac lesions.

Methods: We analyzed a clinical database of the OMOTENASHI registry (Observational prospective Multicenter registry study on Outcomes of peripheral arTerial disease patieNts treated by AngioplaSty tTherapy in aortoIliac artery), registering symptomatic PAD patients (Rutherford category 2, 3, or 4) undergoing endovascular therapy for aorto-iliac lesions between January 2014 and April 2016 in Japan. The current study analyzed 803 patients who underwent self-expandable stent implantation at 61 centers with the institutional volume known. The primary endpoint was 12-month restenosis, defined as ≥ 50% stenosis on computed tomography or angiography, or a peak systolic velocity ratio = 2.5 on duplex ultrasound. When treatment strategies, endovascular procedures and clinical outcomes were compared between the patients treated with IVUS use and those treated without IVUS use, the propensity score matching was performed to minimize the inter-group difference in baseline characteristics.

Results: A total of 545 patients (67.9%) underwent IVUS-supported stent implantation. Patients treated with IVUS use had a lower prevalence of regular dialysis, whereas they had a higher prevalence of TASC II class D and chronic total occlusion. In patients treated with IVUS use, carbon dioxide contrast agent were more often used, and 0.035-inch guidewire was less frequently selected. Implanted stents in these patients were longer and smaller in diameter. The propensity score matching extracted 138 pairs, with no remarkable intergroup difference in baseline characteristics. Procedure time =1 hour was less frequent in patients treated with IVUS use; their radiation time was longer. Endovascular strategies, as well as postoperative medication were not significantly different between patients with and without IVUS use. The 12-month restenosis risk was not significantly different between patients with and without IVUS use (10.2% [6.9 to 14.9%] versus 10.3% [5.4 to 18.6%], P=0.99).

Conclusion: IVUS use in aorto-iliac stenting for patients with PAD was not associated with primary patency at 12 months.