

P-04      Durable Patency with Drug-Coated Balloon Angioplasty Based on OCT Findings for  
Renal Artery In-Stent Restenosis in a Functional Solitary Kidney

Kohei Moribayashi, Narukuni Kodama, Yunosuke Matsuura, Koichi Kaikita  
Division of Cardiovascular Medicine and Nephrology, Department of Internal Medicine,  
Faculty of Medicine, University of Miyazaki, Miyazaki, Japan

An 84-year-old man was referred for refractory hypertension, progressive renal dysfunction, and recurrent heart failure. He was diagnosed with severe atherosclerotic renal artery stenosis in a congenital functional solitary kidney. Laboratory tests showed BNP 803 pg/mL, serum creatinine 1.72 mg/dL, plasma renin activity 4.0 ng/mL/h, and plasma aldosterone concentration 129.6 pg/mL. Duplex ultrasonography demonstrated a peak systolic velocity of 302.5 cm/s, and endovascular therapy was performed with implantation of a 6.0x14-mm bare-metal stent, resulting in marked improvement in blood pressure, heart failure, and renal function. Nine months later, duplex ultrasound revealed in-stent restenosis (peak systolic velocity 320 cm/s). Because acute occlusion of the solitary kidney could be catastrophic, repeat intervention was performed. Optical coherence tomography demonstrated homogeneous neointimal hyperplasia, suggesting smooth muscle cell proliferation. After balloon predilation, a paclitaxel-coated balloon was selected based on the OCT findings. The patient has remained free from recurrent restenosis for approximately 3 years. This case highlights the potential value of OCT-guided lesion assessment for selecting drug-coated balloon angioplasty in renal artery in-stent restenosis.

