

¹Osaka city University ²Ishikiriseiki Hospital ³Higashisumiyoshimorimoto Hospital

Satoshi Nishimura¹, Takao Hasegawa¹, Shinji Nakata¹, Noriaki Kasayuki², Takahiko Kawarabayashi³, Toru Kataoka¹, Minoru Yoshiyama¹

<Purpose> To evaluate morphological characteristics in bare-metal stent restenosis by OCT. <Methods> Patients (BMS: n=10, 11 lesions) presenting with angiographically documented in-stent restenosis (ISR) were included. Quantitative analysis consisted of lumen area, stent area and % area stenosis (%AS=lumen area/stent area*100). Qualitative analysis included assessment of tissue structure and backscatter. Qualitative and quantitative analyses were performed at each 1-mm interval through the stent. ISR stent was divided into 2 segments, ISR (%AS >50%) and non-ISR segments (%AS <50%) to compare the tissue character between ISR and non-ISR segments. <Results> %AS was $33.7 \pm 9.6\%$, $75.8 \pm 12.1\%$ in non-ISR segment and ISR segment, respectively. In the backscatter, high was frequently observed in non-ISR segment compared to ISR segment (non-ISR segment 95.7%, ISR segment 70.1%; $p < 0.0001$). Tissue characteristic in non-ISR segment was almost all homogeneous-high, however there were various tissue structure patterns in ISR segment (figure). <Conclusions> This study demonstrates more various morphological characteristics are intermixed in bare-metal stent restenosis.

