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Backgrounds: Intracoronary frequency-domain optical coherence tomography (FD-OCT) is a novel technology which provides high-resolution cross-sectional images of coronary arteries. Reproducibility of quantitative FD-OCT for stent analysis is not well established. The purpose of the present study was to assess the reproducibility for stent length (SL), minimum lumen area (MLA), lumen area (LA) and stent area (SA) with FD-OCT. **Methods:** We examined 20 stented lesions using FD-OCT (C7, LightLab Imaging, Inc., Westford, Massachusetts). FD-OCT imaging was analyzed about first and second pullbacks. SL were measured in the long axis image. MLA, LA and SA were measured at every 1mm cross-section. **Results:** SL, MLA, mean LA and mean SA measured by first pullback of FD-OCT were significantly correlated with those measured by second pullback ($r^2=1.00$, $p < 0.001$; $r^2=0.98$, $p < 0.001$; $r^2=0.98$, $p < 0.001$ and $r^2=0.98$, $p < 0.001$, respectively). The absolute difference of SL, MLA, mean LA and mean SA between IVUS and FD-OCT were $0.17 \pm 0.10\text{mm}$; $0.22 \pm 0.16\text{mm}^2$; $0.29 \pm 0.17\text{mm}^2$; and $0.29 \pm 0.16\text{mm}^2$. The limits of agreement for SL, mean LA and mean SA were -0.36 , 0.42mm ; -0.58 , 0.48mm^2 ; -0.66 , 0.68mm^2 ; and -0.68 , 0.64mm^2 . **Conclusions:** The FD-OCT showed a good accuracy of intracoronary measurements compared with first and second pullbacks. Our results emphasize the value of FD-OCT as a tool for the quantitative assessment of coronary stented lesions.