**OCT-GUIDED PCI: PRESENT STATUS AND FUTURE PERSPECTIVES**

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Optical coherence tomography (OCT) is thought to be an optical analog of intravascular ultrasound (IVUS) with 10 times higher resolution (10-15μm) and rapid pullback (2-3 cm/sec) with greater accuracy in the measurement compared with IVUS and angiography. Although several advantages of OCT have been reported recently compared with IVUS in the diagnosis of coronary artery disease or the guidance of percutaneous coronary intervention (PCI), ESC guideline 2014 recommended IVUS and OCT as class IIa and IIb, respectively, for the guidance of PCI and similar recommendation has been also proposed in ACC/AHA guideline. However, OCT has demonstrated non-inferiority to IVUS recently as the guidance for PCI by ILUMIEN III and OPINION studies, and class IIa recommendation could be expected in the guidelines in the near future. Furthermore, ILUMIEN I study has demonstrated complementary use of intracoronary physiology and imaging by the findings that OCT may change PCI strategy even if the indication or end-point was decided by fractional flow reserve (FFR), although there is a lot of discussion debating which modality would be better for PCI guidance or diagnosing coronary artery disease between intracoronary physiology and imaging. In cases with severe calcified lesion, coronary artery dissection and bifurcation lesion, superiorities of OCT have been reported compared with IVUS, and further development of OCT could be expected not only in software such as automatic detection and presentation of stent struts apposition with angio-co-registration, or auto measurement system, etc. but also in hardware such as ultrafast pull-back or combination and co-registration with IVUS or near infrared spectroscopy (NIRS) system. Thus, OCT-guided PCI would develop much more in the near future and randomized prospective studies could be planned to demonstrate the advantage of OCI-guided PCI compared with IVUS-guided PCI in several specific fields.