Optical coherence tomography (OCT) is non-inferior to intravascular ultrasound (IVUS) for guiding percutaneous coronary intervention (PCI) in patients with diverse coronary artery lesions.

The OCTIVUS trial was a head-to-head comparison of OCT- and IVUS-guided PCI with regards to clinical outcomes in patients with a broad range of coronary artery lesions.

Study objectives

The results add compelling evidence on the relative efficacy and safety of an OCT-guided strategy compared with an IVUS-guided strategy for PCI.

Study population

Patients
- aged ≥19 years
- undergoing PCI with contemporary drug-eluting stents or drug-coated balloons (only for in-stent restenosis) for significant coronary artery lesions

Where?

South Korea, 9 sites

Primary endpoint

Composite of death from cardiac causes, target vessel myocardial infarction or ischaemia-driven target vessel revascularisation at 1 year, which was powered for noninferiority of the OCT group as compared with the IVUS group (noninferiority margin, 3.1 percentage points)

Risk difference, −0.6 percentage points
Upper boundary of the one-sided 97.5% CI 0.97; p<0.001 for noninferiority

Safety endpoints

Incidence of contrast-induced nephropathy was similar

1.4% = 1.5%

Incidence of major procedural complications was lower with

2.2% vs. 3.7%; p=0.048

Conclusion

Optical coherence tomography (OCT) is non-inferior to intravascular ultrasound (IVUS) for guiding percutaneous coronary intervention (PCI) in patients with diverse coronary artery lesions.

Impact on clinical practice

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