


OCT-guided or angiography-guided PCI in complex bifurcation lesions


Conclusion

 In patients with complex bifurcation lesions, optical coherence tomography (OCT)-guided percutaneous coronary intervention (PCI) is associated with better outcomes after 2 years than angiography-guided PCI.

Impact on clinical practice

 The results suggest that routine use of structured OCT guidance during PCI of complex bifurcation lesions should be considered to improve prognosis.

Study objectives

 OCTOBER was the first adequately powered clinical trial to examine whether routine use of OCT during PCI of complex bifurcation lesions improves clinical outcomes compared to standard practice with angiographic guidance and optional use of intravascular ultrasound (IVUS) in left main bifurcations.

Study population

Patients with complex bifurcation lesions requiring PCI

Where?



13 European countries



38 heart centres

Who and what?

1,201



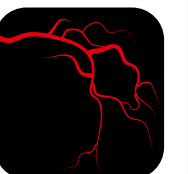
patients

OCT-guided PCI

randomised 1:1

Angiography-guided PCI

IVUS allowed in left main bifurcations



Primary endpoint

Major adverse cardiac events (MACE), defined as a composite of cardiac death, target lesion myocardial infarction, and ischaemia-driven target lesion revascularisation, after 2 years



Rate%

10.1%



14.1%

Kaplan-Meier estimated hazard ratio 0.70
95% CI 0.50-0.98
p=0.035

Secondary endpoints

Differences in secondary clinical endpoints after 2 years did not reach statistical significance, but the trial was not powered for these endpoints

All-cause mortality



=
VS.



2.4%

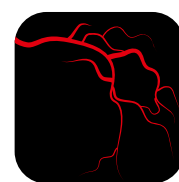
4.0%

Hazard ratio 0.56
95% CI 0.28-1.10

Cardiac death



=
VS.



1.4%

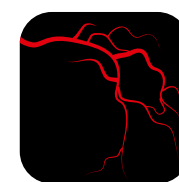
2.6%

Hazard ratio 0.53
95% CI 0.22-1.25

Target lesion myocardial infarction



=
VS.



7.8%

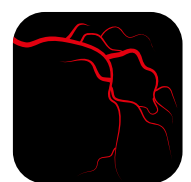
8.5%

Hazard ratio 0.90
95% CI 0.60-1.34

Target lesion revascularisation



=
VS.



3.1%

5.0%

Hazard ratio 0.63
95% CI 0.35-1.15