

Invasive imaging sheds more light on percutaneous coronary intervention

August 29 2016

An invasive imaging technique called optical coherence tomography (OCT) can visualize the coronary arteries in patients undergoing percutaneous coronary intervention (PCI) and lead to better outcomes compared to standard angiography-guided PCI, according to new findings reported here.

Results of the DOCTORS (Does Optical Coherence Tomography Optimize Results of Stenting) study were presented in a Hot Line session at ESC Congress 2016, with simultaneous publication in *Circulation*.

In patients with non–ST-segment elevation [acute coronary syndromes](#) (NSTEMI-ACS), OCT "provided useful additional information beyond that obtained by angiography alone, and impacted directly on physician decision-making," reported the study's lead investigator Nicolas Meneveau, MD, PhD, from University Hospital Jean Minjot, in Besançon, France.

OCT, which involves introducing an imaging catheter into the [coronary artery](#) to check vessel size, lesion characteristics, and stent positioning and expansion "led to a change in procedural strategy in half of cases," said Prof. Meneveau.

However, "additional prospective randomized studies with clinical endpoints are required before it can be recommended for standard use."

The multi-centre trial included 240 NSTEMI-ACS patients who were

randomised 1:1 to standard fluoroscopy-guided PCI alone (angio group) or with the addition of OCT - performed an average of 3.8 times, before, during and after the procedure.

Overall, OCT was associated with better functional outcome than PCI guided by fluoroscopy alone, said Prof Meneveau.

The primary endpoint of the study, which was fractional flow reserve (FFR) – a measure of blood flow and pressure in the coronary artery before and after the procedure - was significantly better in the OCT group as compared to the angio group (0.94 vs 0.92, $p=0.005$).

In addition, the number of patients with a post-procedural FFR >0.90 was significantly higher in the OCT group (82.5% vs 64.2%, $p=0.0001$).

Compared to angiography, OCT allowed clinicians to see significantly more thrombi (69% vs 47%, $p=0.0004$) and calcifications (45.8% vs 9%, p

Citation: Invasive imaging sheds more light on percutaneous coronary intervention (2016, August 29) retrieved 5 May 2024 from <https://medicalxpress.com/news/2016-08-invasive-imaging-percutaneous-coronary-intervention.html>

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