

Conclusions

The combination of CTA and perfusion correctly identifies patients with flow limiting CAD defined as ≥ 50 stenosis by ICA causing a perfusion defect by SPECT/MPI. The exclusion of patients with previous myocardial infarction or known CAD increased the diagnostic power of combined CTA–CTP in the non-invasive detection of flow limiting CAD defined by ICA–SPECT/MPI.

Supplementary material

Supplementary material is available at *European Heart Journal* online.

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References

The list of references is available in the online version of this paper.

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Excluding a giant coronary aneurysm by implantation of a covered stent

Mathias Possner¹, Philipp A. Kaufmann^{1,2}, Roberto Corti^{3†}, and Oliver Gaemperli^{1,3*}

¹Department of Radiology, Cardiac Imaging, University Hospital Zurich, Zurich, Switzerland; ²Zurich Center for Integrative Human Physiology (ZIHP), University of Zurich, Zurich, Switzerland; and ³Andreas Gruntzig Cardiac Catheterization Laboratories, Cardiovascular Center, University Hospital Zurich, Zurich, Switzerland

* Corresponding author. Tel: +41 44 255 10 52, Fax: +41 44 255 44 01, Email: oliver.gaemperli@usz.ch

† R.C.'s current employer is HerzKlinik Hirslanden, Klinik Hirslanden, Zurich, Switzerland.

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A 61-year-old gentleman underwent coronary computed tomography (CT) angiography (CCTA) for atypical chest pain, which revealed partially ectatic, diffusely diseased coronary arteries and a giant, eccentric, and partially thrombosed aneurysm in the proximal segment of the right coronary artery (RCA) (size: $7 \times 5.5 \times 6$ cm; Panels A and B, arrows). On invasive angiography, the true size of the aneurysm was underestimated due to extensive thrombosis (Panels B and E, asterisk marking perfused part). The perfused aneurysm was connected to the RCA through a thin neck (Panel B, arrowhead), resembling a pseudoaneurysm rather than a true aneurysm. Myocardial perfusion SPECT revealed a non-transmural inferior scar without reversible ischaemia (Panel D: Hybrid SPECT/CT, black arrows).

Exclusion of the RCA aneurysm was performed by placement of a 4.8×26 mm covered stent (Graftmaster RX, Abbott Vascular, Abbott Park, IL, USA). Distal diameter mismatch was corrected by post-dilatation with an oversized balloon-catheter (Avion Plus 6.0/20 mm, Medtronic Invatec, Frauenfeld, Switzerland) (Panel F). Repeat CCTA 4 months later showed a fully excluded aneurysm without further extravasation of contrast (Panel C). Triple therapy with aspirin, clopidogrel, and phenprocoumon was started for 3 months, followed by clopidogrel and phenprocoumon for another 9 months.

Coronary artery aneurysms, particularly of such giant dimensions, are rare findings on coronary angiograms and may be associated with extensive atherosclerosis or a history of vascular inflammatory disease (e.g. Kawasaki syndrome). Spontaneous ruptures of coronary aneurysms are exceedingly rare. However, due to the paucity of data, there is no evidence for the best treatment of such a giant aneurysm. In this particular case, the decision to exclude the aneurysm with a covered stent was taken to avoid rupture and distal embolization.

