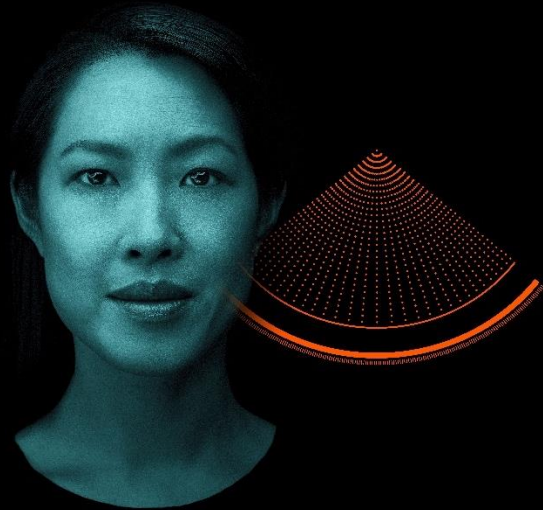
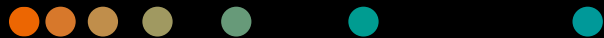


Virtual calcium removal in calcified coronary arteries with photon-counting detector CT—first in-vivo experience

NAEOTOM Alpha Publication Summary



Photon-counting is NAEOTOM



Key findings of the case study



"In this study, 30 patients with 81 coronary stenoses from calcified plaques underwent CCTA with PCD-CT and invasive coronary angiography."

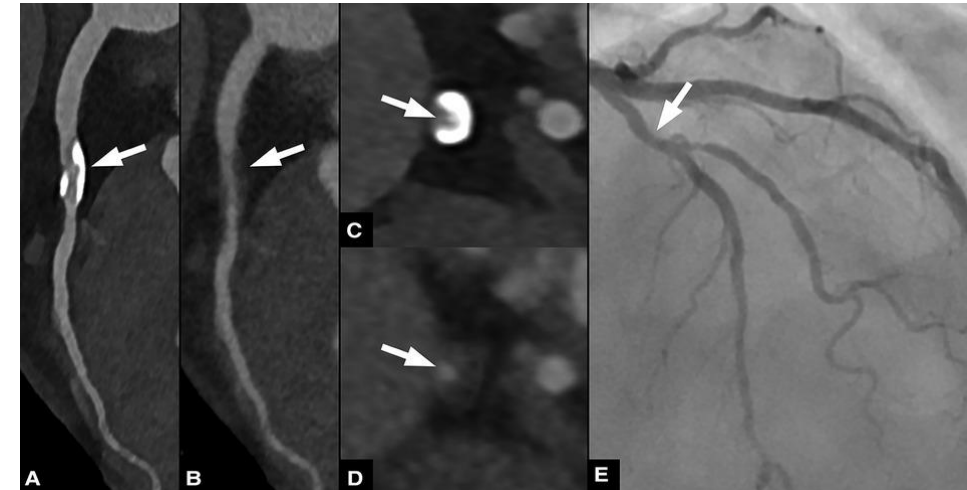


"VNCa images showed similar diameter stenosis quantification to 3D-QCA, while VMI overestimated stenoses by -10%."



"Virtual calcium removal (VNCa) was feasible in 88% of the stenoses and showed better stenosis categorization compared to conventional images, with overestimation in only 8% of cases. The VNCa algorithm improved quantification accuracy by reducing calcium blooming artifacts that commonly affect conventional CCTA images."

*"Photon-counting detector CT with virtual non-calcium (VNCa) images **significantly improves the accuracy** of calcified coronary stenosis quantification by effectively removing calcium blooming artifacts, offering **more precise assessments** compared to conventional CCTA imaging."*



Conventional (A) and virtual non-calcium (VNCa) images (B) show calcified and subtracted calcified plaques, respectively. Corresponding axial images show the calcified plaque (C) and the vessel lumen after subtraction (arrow) (D) invasive coronary angiography (E) confirmed the presence of a moderate stenosis in the proximal LAD.

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CCTA: Coronary CT angiography

PCD-CT: Photon-counting detector CT

VMI: Virtual monoenergetic imaging

VNCa: Virtual Non-calcium LAD: Left anterior descending

NAEOTOM Alpha is not commercially available in all countries. Its future availability cannot be guaranteed.

The statements by Siemens Healthineers' customers described herein are based on results that were achieved in the customer's unique setting. Because there is no "typical" hospital and many variables exist (e.g., hospital size, samples mix, case mix, level of IT and/or automation adoption) there can be no guarantee that other customers will achieve the same results.