of the steering group for the REALISE study. He has given lectures reimbursed by Sanofi-Aventis and Boehringer Ingelheim. G.Y.H.L. has received funding for research, educational symposia, consultancy, and lecturing from different manufacturers of drugs used for the treatment of atrial fibrillation and thrombosis. L.F. had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

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

CARDIOVASCULAR FLASHLIGHT

Thrombotic arch in ST-segment elevation myocardial infarction: comparison between two-dimensional and three-dimensional optical frequency domain imaging

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A 54-year-old female presented with inferoposterior ST-segment elevation myocardial infarction. Coronary angiogram revealed total occlusion of the proximal left circumflex artery. Following a thrombus aspiration, without administration of glycoprotein IIb/IIIa inhibitor, direct stenting with a drug-eluting metallic stent was performed. After stent implantation, angiogram showed thrombolysis in myocardial infarction (TIMI) grade III flow, without any evidence of intraluminal defect within the culprit lesion (Panel A, red arrow). Subsequently, we performed the optical frequency domain imaging (OFDI; Terumo Europe N.V., Leuven, Belgium) with a pullback speed of 20 mm/s. During image acquisition, contrast medium was continuously injected to exclude blood in the lumen. In contrast to the angiogram, a reconstructed three-dimensional OFDI image showed a lot of thrombi protruding into the lumen within the metallic stent (see Supplementary material online, Video S1), and a focal structure with arch-like formation could be clearly imaged in the proximal segment (Panel B, yellow and white arrows). Interestingly, corresponding two-dimensional images showed that both ends of this thrombus were attached to the vessel wall (Panel C, yellow arrows), while its body was free from the vessel wall and looked like floating inside the lumen (Panel C, white arrows). Strut-level analysis in the segment with the thrombus showed 160 apposed struts (96.4%) and 6 malapposed struts (3.6%) located at the opposite side of the thrombus. Considering the absence of malapposed strut behind the thrombus, heterogeneous signal intensity, and inconsistent intensity attenuation (Panel C, asterisk), this structure is considered as a mixed type of thrombus which could not be removed by thrombectomy. This case highlights the efficacy of OFDI in detecting intracoronary thrombus not visible on angiography and facilitates our understanding of intracoronary thrombus morphology.

Supplementary material is available at European Heart Journal online.

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