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Letter to the Editor. Response to “Diagnosis of CAV in OCT Scans From Heart Transplanted Patients”

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We appreciate the interest of Neghabat and Holm¹ in our recently published study and are open to the discussion of the important topic of cardiac allograft vasculopathy (CAV).² Assessment of the different patterns of CAV with optical coherence tomography (OCT) is a relatively new approach to gain deeper insight into this important vascular pathology. Although we completely agree that the diagnosis of an organized thrombus must be considered when evaluating CAV findings in OCT, we can confirm that according to current consensus definitions and the best of our knowledge, the previously shown OCT frame (Figure 1C in the previous article) is part of a lipid plaque.

When performing a concise analysis of OCT sequences, it is obviously important to not rely on just 1 single frame. In fact, a single image is not sufficient for making the diagnosis of CAV-associated pathologies. When we came to the diagnosis of a lipid plaque in our study, we therefore assessed all previous and following frames of the region of interest. Diagnoses were based on the standard definitions of plaque morphology.^{3–5} Here, we provide additional images of the respective plaque of this specific patient for better evaluation (Figure 1). One can appreciate that the adjacent frames to the original frame show typical features of a lipid plaque.^{3–5} We also suggest comparing our figure with previous OCT findings in the literature

showing examples of lipid plaques that share morphological similarities.^{6,7}

Additionally, we want to highlight that various aspects disprove the diagnosis of an organized thrombus proposed by Neghabat and Holm¹: As opposed to the interpretation of Neghabat and Holm,¹ the plaque is not located in the vessel lumen but within the vessel wall (Figure 1). We understand that Neghabat and Holm¹ excluded the possibility of a fresh thrombus, defined as an “intramural mobile mass attached to the luminal surface or floating within the lumen,” which we agree with.⁵ Although it needs further studies, the appearance of an organized thrombus in OCT is thought to be heterogeneous, not homogeneous, as acknowledged by the consensus of the “International Working Group for Intravascular Optical Coherence Tomography Standardization and Validation.”³ Previous histopathologic and OCT studies also showed that organized coronary thrombi are typically characterized by recanalization.^{8,9} This typical feature of organized thrombi is represented in OCT as multiple channels divided by thin septa, with or without communication with each other (“Swiss cheese” or “lotus root” appearance).^{5,9} All of these aspects are not present in our figure. Accordingly, the current consensus description of an organized thrombus depicted by OCT does not correspond to the frame presented in our study or the interpretation of our findings by Neghabat and Holm.^{1,3}

However, we acknowledge that a previous publication of Clemmensen et al¹⁰ highlighted a potential role for thrombi in CAV, and we agree with Neghabat and Holm¹ that intracoronary imaging could represent a key tool for a better in vivo understanding of the complex disease of CAV.

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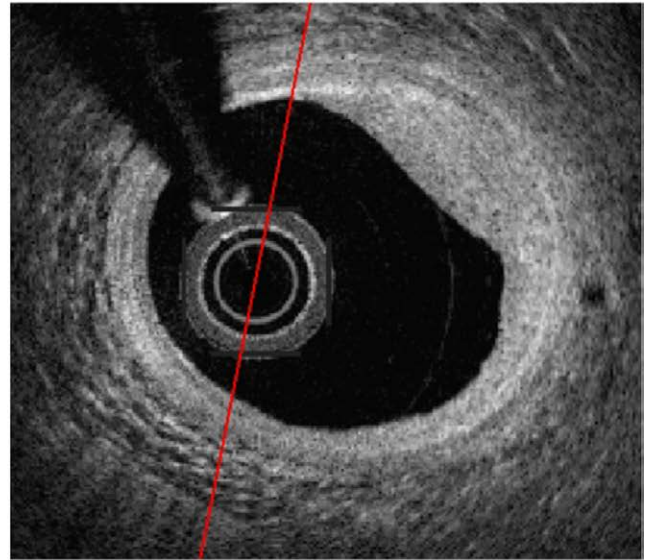
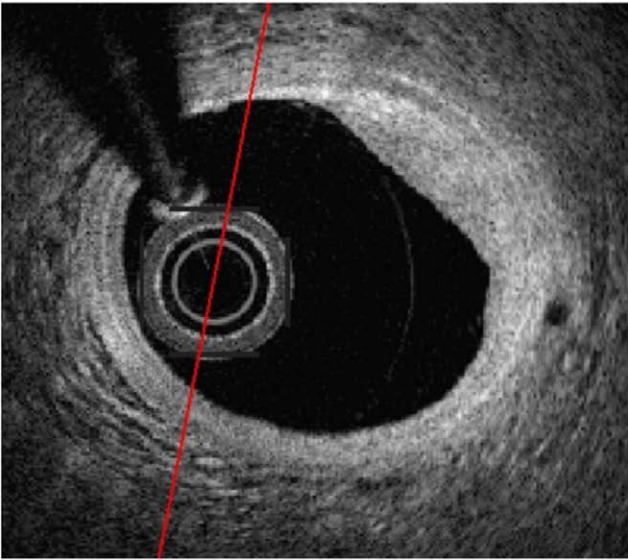


FIGURE 1.

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