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CARDIOVASCULAR FLASHLIGHT

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Small black holes in optical frequency domain imaging matches intravascular neoangiogenesis formation in histology

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A 46-year-old white man with a family history of heart disease and myocardial infarction complains recently about indigestion and was found unresponsive in bed.

Post-mortem angiography (Panel A) showed an intraluminal haziness in the area of the mid-RCA (B/F and C/G) followed by a wide-open artery (D/H) and a severe luminal stenosis before the crux (E/I). Optical frequency domain imaging (OFDI; Terumo, Tokyo, Japan) (Panels B–D) and corresponding histology (Panels F–H) presented a ruptured plaque and a non-occlusive luminal thrombus and only mild circumferential luminal narrowing. Sections at the crux of the heart demonstrated a severe narrowing with an intact thin cap fibroatheroma (Panels E and I) with a large necrotic core (NC).

Several small (50–300 μm) black holes were observed in OFDI (Panel D) with a centrifugal sound enhancement (Panel J). Histology confirmed intravascular neoangiogenesis formation in the corresponding sections (Panels H and K).

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