A 42-year-old woman developed severe sudden-onset central chest pain. Risk factors included smoking, hypertension, morbid obesity, and a family history of coronary artery disease. A 12-lead electrocardiogram demonstrated anterior ST-segment elevation, prompting immediate transfer to our tertiary cardiac center. Coronary angiography revealed diffuse concentric and smooth stenosis in the mid segment of the left anterior descending artery (LAD) (**FIGURE 1A** and **1B**). Otherwise, her coronary anatomy appeared angiographically normal. Intracoronary administration of nitroglycerine had no effect on the angiographic appearance of the mid LAD. Spontaneous coronary artery dissection (SCAD) was suspected and the lesion was examined using optical coherence tomography (OCT) (ILUMIEN OPTIS PCI Optimization System / Dragonfly OPTIS Imaging Catheter, Abbott Cardiovascular, Santa Clara, California, United States). The examination revealed intramural hematoma filling a circumferential false lumen and compressing the true lumen of the artery (**FIGURE 1C**; Supplementary material, Video S1). It also confirmed the angiographically normal appearance of the artery distal (**FIGURE 1D**) and proximal (**FIGURE 1E**) to the stenosed (dissected) segment.
Differentiating SCAD from atherosclerotic plaque rupture with the use of coronary angiography alone is often challenging. Intracoronary imaging provides diagnostic clarity. Optical coherence tomography has spatial resolution superior to intravascular ultrasound and it can better identify localized fenestrations or “entry tears” in the intima.1,2 Intracoronary imaging is also useful in guiding percutaneous coronary intervention (stenting) in patients with SCAD, where this is deemed to be necessary.2-4 The use of CTCA is not currently recommended for the diagnosis of SCAD, however CTCA can be very helpful in follow-up, as in this case.1,2

Supplementary Material
Supplementary material is available at www.mp.pl/kardiologiapolska.

**FIGURE 1** Imaging in spontaneous coronary artery dissection: A – invasive coronary angiography, left anterior oblique cranial view, showing stenosis in the mid segment of the left anterior descending artery (LAD; arrows); B – invasive coronary angiography, left anterior oblique caudal view (spider), showing stenosis in the mid segment of the LAD (arrows); C – optical coherence tomography (OCT): cross-sectional visualization of the mid left anterior descending artery (LAD) showing a circumferential false lumen, which compresses the true lumen of the artery; D – OCT: cross-sectional visualization of the distal LAD showing the normal coronary artery lumen; E – OCT: cross-sectional visualization of the proximal LAD showing the normal coronary artery lumen; F – cardiac computed tomography angiography: curved multiplanar reformatted view of the LAD showing absorption of the intramural hematoma in the mid LAD segment and good patency of the artery.

Abbreviations: FL, false lumen; TL, true lumen
ARTICLE INFORMATION

ACKNOWLEDGMENTS KCT received a training grant from the Hellenic Society of Cardiology.

CONFLICT OF INTEREST None declared.

OPEN ACCESS This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (CC BY-NC-ND 4.0), allowing third parties to download articles and share them with others, provided the original work is properly cited, not changed in any way, distributed under the same license, and used for non-commercial purposes only. For commercial use, please contact the journal office at kardiologiapolka@ptkardio.pl.

doi:10.33963/KP.15233

REFERENCES