

Image in cardiology

Optical Coherence Tomography in Thromboembolic Pulmonary Hypertension



Hallazgos por tomografía de coherencia óptica en la hipertensión pulmonar tromboembólica

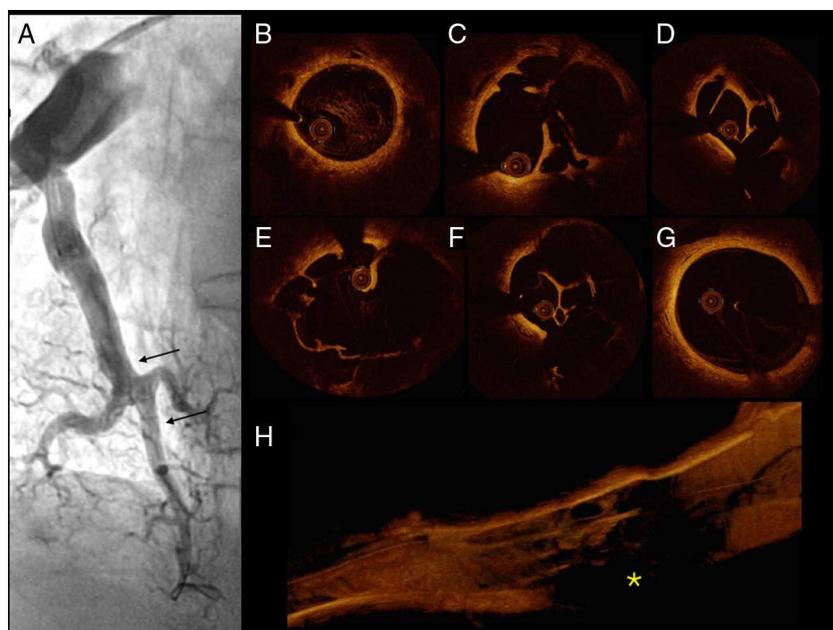
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Figure.

Thromboembolic pulmonary hypertension is caused by thrombotic obstruction of the pulmonary artery tree after a thromboembolic event. If the thrombotic event does not resolve, fibrotic changes associated with vascular remodeling occur, leading to increased pulmonary resistance. An 80-year-old man was diagnosed with severe hypertension by echocardiography after signs and symptoms of acute pulmonary thromboembolism 2 years earlier. Cardiac catheterization found a pulmonary pressure of 80/30 mmHg (mean, 47 mmHg), with a resistance of 9 UW. Pulmonary angiography showed partial filling defects in both main pulmonary arteries. Optical coherence tomography is an imaging technique that allows the arterial wall to be visualized with microscopic resolution. It can be useful for studying certain arterial wall disorders in vivo. In the basal arterial segment of the inferior lobe (Figure A, arrows; video 1 of the supplementary material), optical coherence tomography showed intimal thickening in the adjacent distal region (Figure B), multiple fibrous tracts forming a honeycomb-like structure associated with recanalized thrombosis (Figures C-F, video 2 of the supplementary material), and recent proximal intimal thickening (Figure G). The 3-dimensional reconstruction shows a tangle of fibrous tracts (Figure H, asterisk) which, with the associated flow resistance, could partly explain the pulmonary hypertension. Optical coherence tomography could be the technique of choice for diagnosing distal thromboembolic pulmonary hypertension and guiding percutaneous intervention.

SUPPLEMENTARY MATERIAL

Supplementary material associated with this article can be found in the online version available at [doi:10.1016/j.rec.2014.07.031](https://doi.org/10.1016/j.rec.2014.07.031).

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