

## Image in cardiology

## Deep circumferential calcium fracture after coronary lithotripsy

## Fractura de calcio circunferencial profundo tras litotricia coronaria



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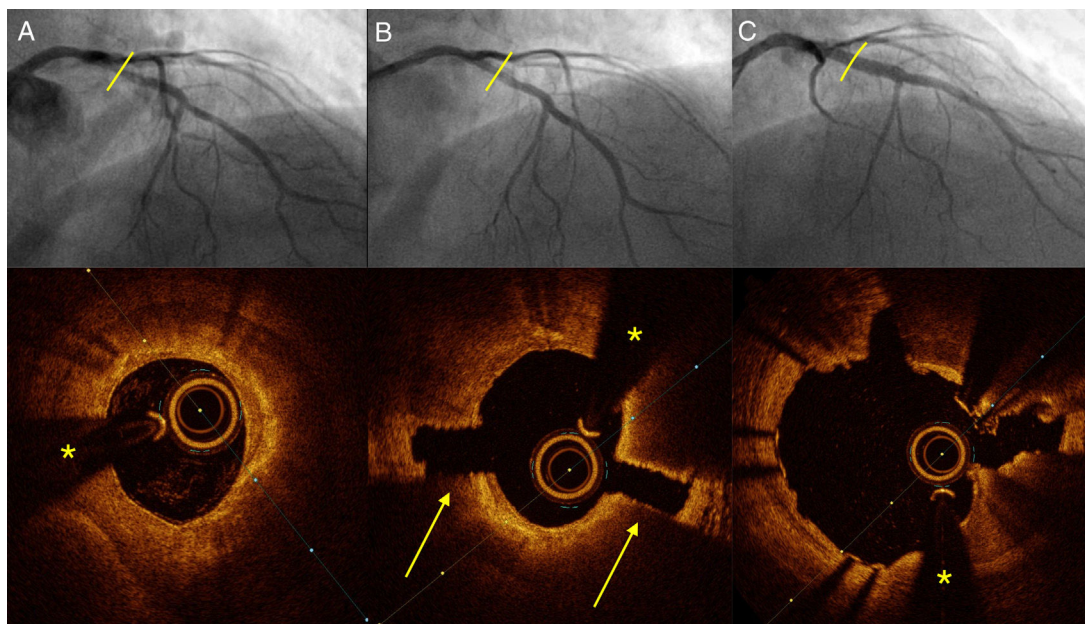


Figure 1.

A 71-year-old male exsmoker with hypertension, diabetes and dyslipidemia was admitted for unstable angina. Angiography showed a severe long and calcified lesion from the left main coronary artery to the proximal and medial left anterior descending (LAD) artery. **Figure 1** (video 1 of the supplementary data) shows the optical coherence tomography (OCT) image acquired before coronary lithotripsy (CL). Severe circumferential calcification was observed in the proximal LAD lesion (\* guidewire artefact), with an OCT-calcium score of 4. This score is a predictor of inadequate expansion (maximum calcium thickness > 0.5 mm, > 180°, length > 5 mm). Angioplasty was performed by CL (shockwave intravascular lithotripsy) with a 3 × 12 mm balloon at 4 atm for 10 seconds, applying 2 pulses to the medial LAD artery and 1 to the proximal LAD artery (balloon rupture occurred on opening of the proximal lesions at 6 atm; nominal diameter/vessel ratio = 0.9). **Figure 1B** (video 2 of the supplementary data) shows the outcome immediately after CL at the same point of the proximal LAD. Complete fractures of the circumferential calcium with a depth of up to 1.4 mm (arrows) can be seen. These had no impact on the adventitia of the vessel. Plaque preparation was completed by predilatation with a cutting balloon (3 × 10 mm) and, under OCT imaging guidance, 2 overlapping drug-eluting stents were implanted. **Figure 1C** (video 3 of the supplementary data) shows the follow-up OCT image after stent placement. Displacement of the fractures can be seen with acute luminal gain, enabling appropriate stent expansion and minimal residual malapposition.

## APPENDIX A. APPENDIX. SUPPLEMENTARY DATA

Supplementary data associated with this article can be found in the online version available at <https://doi.org/10.1016/j.rec.2014.04.021>

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