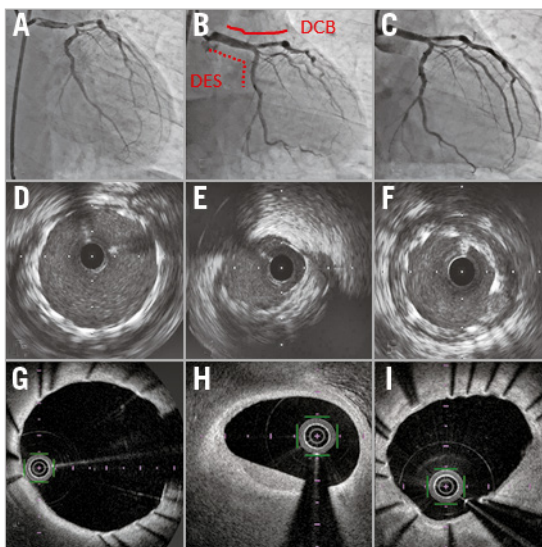


# Left main bifurcation percutaneous coronary intervention using a drug-eluting stent and drug-coated balloon: optical frequency domain imaging follow-up



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A 65-year-old man with stable angina pectoris was admitted for percutaneous coronary intervention. Coronary angiography (CAG) detected a left main artery (LM) true bifurcation lesion with the following stenotic percentages: 90%, distal LM; 90%, left circumflex artery (LCX); and 75%, left anterior descending artery (LAD) (**Panel A**). A 3.5×18 mm Resolute Integrity® drug-eluting stent (DES) (Medtronic Vascular, Santa Rosa, CA, USA) was implanted between the LM and the proximal LCX. CAG was performed after kissing balloon inflation using a 3.0×15 mm SeQuent Please® drug-coated balloon (DCB) (B. Braun, Melsungen, Germany) for the LAD and delivery balloon for the LCX (**Panel B**). Intravascular ultrasound showed a well-dilated stent in the LM (**Panel D**) and LCX (**Panel F**), and a high echoic intimal layer at the intimal surface, considered paclitaxel in the LAD (**Panel E**).

He was symptom-free at the 12-month follow-up. CAG detected no restenosis in the LM bifurcation lesion (**Panel C**). Optical frequency domain imaging showed well-dilated, completely covered stent struts in the LM (**Panel G**) and LCX (**Panel I**), and a sufficient lumen and smooth surface just proximal to the LAD treated with the DCB (**Panel H**). Fractional flow reserve at the LAD was 0.81.

Further observation is necessary to monitor plaque progression; however, this strategy reduced the duration of dual antiplatelet therapy, radiation time, and use of contrast media without complex stenting, e.g., culotte stenting. A combination of DES and DCB is effective for treating an LM true bifurcation lesion.

## Conflict of interest statement

The authors have no conflicts of interest to declare.

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