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A case of drug-coated balloon treatment for two total occluded lesions in a patient with acute coronary syndrome

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A 51-year-old man was admitted with worsening effort angina over a 1 month period. His only coronary risk factor was hypercholesterolemia. Cardiac enzymes including creatine kinase-MB and troponin I were normal. His electrocardiogram showed Q-waves in V₁ to V₄. The coronary angiograms showed a short left main with complete occlusions in the proximal left anterior descending (LAD) and left circumflex (LCX) artery (Fig. 1A–C). Revascularization options were discussed and the option to treat the lesions with drug-coated balloons (DCB) was decided. He was carefully assessed, and gave informed consent.

A guide wire successfully crossed the total occlusion of the LCX. Pre-dilatation was performed with a 1.5×15 mm balloon, followed by a $2.5 \times$ $\times 15$ mm non-compliant balloon up to 16 atm and finally a 2.5 \times 30 mm DCB was inflated at 7 atm for 60 s. Then to the LAD lesion, pre-dilatation was performed with 1.5 \times 15 mm balloon and a 3.0 \times \times 15 mm scoring balloon at 16 atm, and then finally a 3.5 \times 20 mm DCB was inflated at 7 atm for 60 s. The final angiograms showed normal flow in both LAD and LCX with no significant dissection or residual stenoses (Fig. 1D–F).

Three months later, follow-up coronary angiography confirmed adequate patency of the DCB treated lesions and reassuringly the distal LCX and proximal LAD looked better (Fig. 1G–I). He remains symptom free, 13-month post-intervention.

After treatment with a DCB, it is possible that vessels will return to their original size over time, which is one of the greatest advantages of DCB treatment in total occluded lesions.

Conflict of interest: None declared

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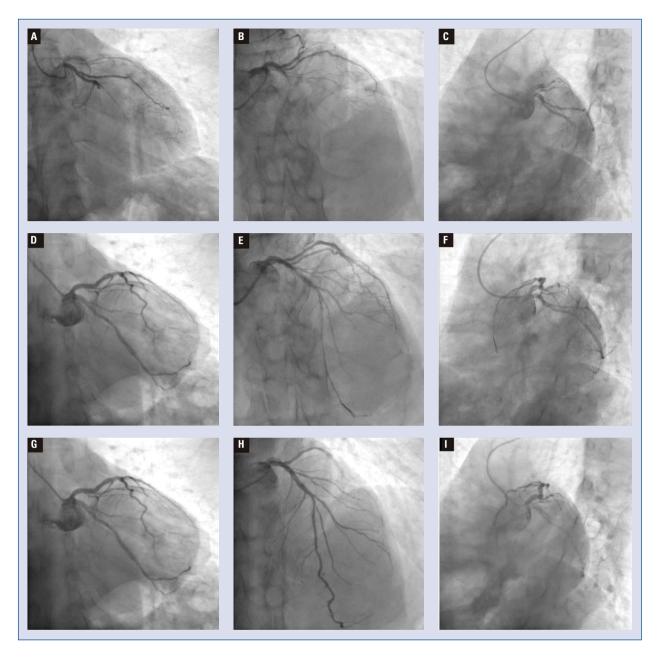


Figure 1. Coronary artery angiography; **A–C.** Before intervention; **D–F.** Right after treatment with a drug-coated balloon; **G–I.** Follow-up angiography at 3 months.