

# Pushing the envelope: A drug-coated balloon for left main intervention

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An 81-year-old man with exertional chest pain, whose exercise electrocardiogram was positive for ischemia with a documented drop in blood pressure, was referred for invasive coronary angiography. The angiography revealed heavily calcified Medina 1:0:1 bifurcation lesion in the left main coronary artery (Fig. 1, upper panels). The left ventricular function was preserved in echocardiography. After heart team discussions, percutaneous coronary intervention (PCI) was the treatment of choice.

Debulking with rotational atherectomy was conducted up to a 2.0 mm burr to both the left anterior descending and circumflex artery. A two-stent technique with double kissing crush was planned upfront. Lesion preparation was performed with non-compliant balloons up to 3.5 mm to both branches. The angiographical result after balloon dilation was deemed ‘stent-like’ without any dis-

section or recoil. After careful consideration, the operator decided to refrain from coronary stenting and delivered antiproliferative agents by means of paclitaxel drug-coated balloons up to 3.5 mm with good final angiographical appearance (Fig. 1, mid panels). Both side branches and the left main were treated with sequential drug-coated balloon applications. The patient responded well to the PCI in terms of symptom relief and control angiography 4 months later was similar to the final result of the index procedure (Fig. 1, lower panels). On a check-up phone call 15 months after the PCI, the patient expressed no symptoms.

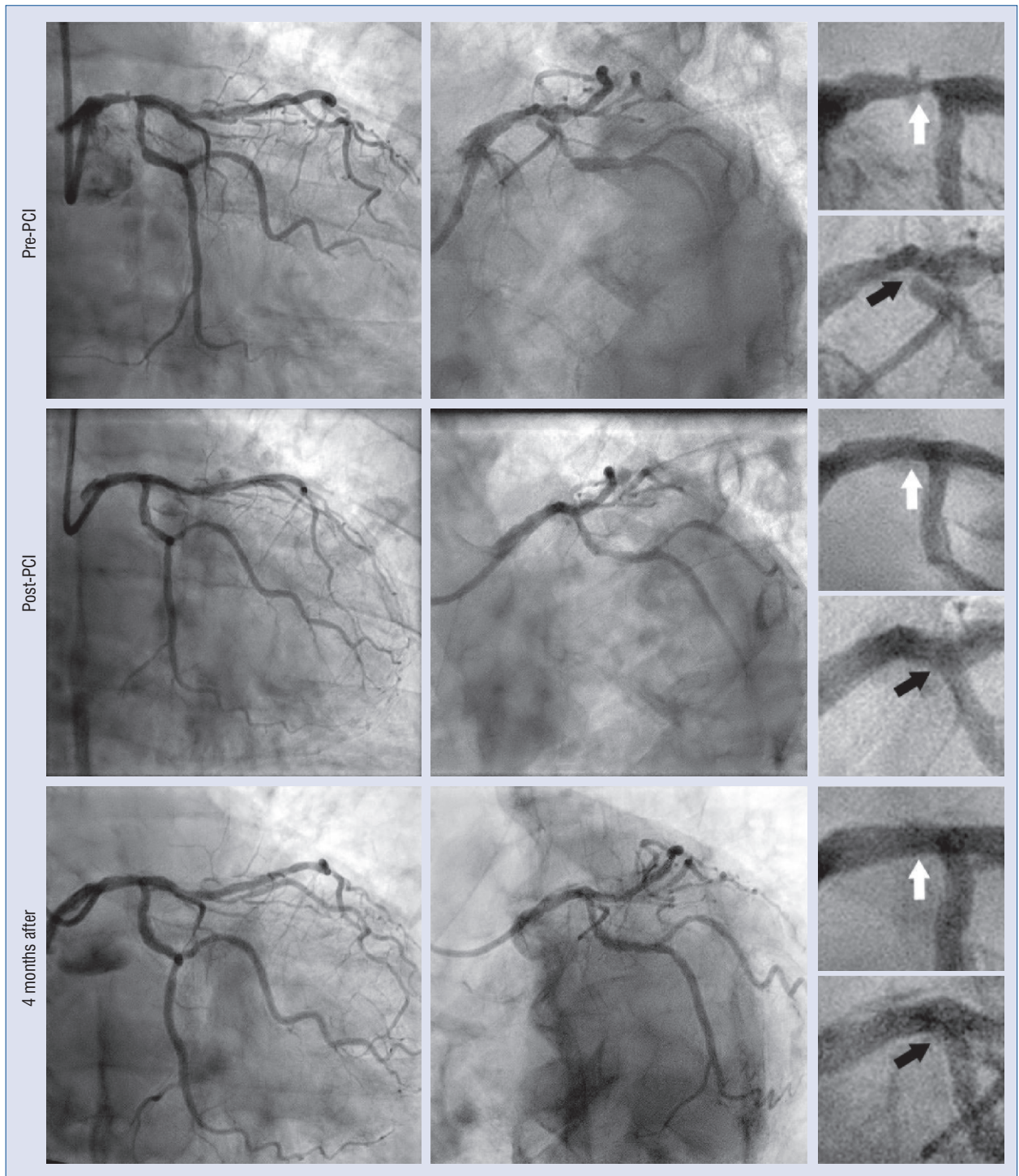
This case describes the feasibility of drug-coated balloon treatment of the left main without stenting. Such procedures are not currently advocated for routine practice but do warrant further investigation in clinical trials.

**Conflict of interest:** None declared

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**Figure 1.** Coronary angiography images before percutaneous coronary intervention (PCI) (**upper panels**), immediately after PCI (**mid panels**) and at 4-month follow-up (**lower panels**). There was distal left main stenosis (upper panel, white arrow) as well as a tight lesion of the ostium of the circumflex (upper panel, black arrow). The results after the procedure show patency of the lesions after drug-coated balloon application, without implantation of stents. Control angiography demonstrates persistence of an optimal result after 4 months of follow-up.