Drug-Coated Balloon-Only PCI Strategy in LAD CTO

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Background:The use of drug-coated balloons in CTO percutaneous coronary intervention (PCI) remains uncommon, especially in major epicardial arteries like the left anterior descending (LAD). However, in selected cases, a DCB-only strategy may offer favorable outcomes while avoiding the long-term risks of stent implantation.Case Summary:A 47-year-old male with diabetes, hypertension, and former smoking history presented with complex triple-vessel disease, including a CTO of the LAD and significant lesions in the left circumflex and right coronary artery. CABG was guideline-recommended but declined by the patient after shared decision-making. PCI was performed in a staged manner, with initial focus on the LAD CTO. Antegrade wire escalation allowed successful crossing, followed by lesion preparation and drug-coated balloon angioplasty. Final angiography showed TIMI-3 flow and no significant dissection or recoil. There were no periprocedural complications. RCA PCI were deferred for subsequent stages.After 6 months relook angiogram noted LAD patent flow.Conclusion:In selected patients with LAD CTO, a DCB-only strategy may achieve excellent procedural and angiographic outcomes while preserving vessel architecture. This approach should be guided by lesion characteristics, technical feasibility, and patient preference, reinforcing the importance of patient-centered care and operator expertise.DCB can be a viable alternative to stenting in CTO PCI, especially in patients refusing surgery or where long-term stent complications are a concern.Optimal lesion preparation and absence of dissection or recoil are prerequisites for success.Staged PCI may be strategic in multivessel disease, prioritizing prognostically significant lesions first.