Chronic total occlusion of left anterior coronary artery in multivessel heart disease: between recommendations and reality

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A 55-year old patient was admitted in hospital with symptoms of stable angina and positive treadmill test in inferolateral leads. Stress scintigraphy was performed and showed signs of ischaemia in posterolateral, anteroapical and apical region. Coronarography showed chronic total occlusion (CTO) of mid-distal segment of RCA, proximal segment of LAD, and borderline stenosis in ACx. PCI was performed with successful recanalization of both CTOs and implantation of DESs. A few months later he had less symptoms and normal treadmill test.

Studies reported that a successful CTO revascularization was associated with a 10-year survival advantage in comparison with failed CTO revascularization (73.5% vs. 65.1%, $p=0.001$)¹. Patients with successful PCI CTO had a lower incidence of death or myocardial infarction (1.05% vs. 7.23% at 12 months)². Despite rapid advances in the technology and experience (retrograde and antegrade approach), the success rate remains about 60-80% in comparison with the success rates of more than 90% in non-CTO PCIs³. Heavy calcification of CTO has been reported to be an independent predictor of failed PCI of CTO⁴. Cardiovascular magnetic resonance imaging may help in assessment of regional ventricular function, myocardial perfusion and viability⁵. Presence of CTO in a non-infarct related artery is an independent predictor of mortality and is associated with a worse clinical

outcome rather than the presence of multivessel disease⁶. Some studies showed that there is no statistical difference in cardiac mortality and morbidity at follow up between CABG and DES groups. However, the risk of subsequent revascularization was significantly lower among patients undergoing CABG, and the rate of MACE was significantly higher in the DES group⁷.

Obtaining a complete revascularization is crucial for decreasing cardiac events. We can do more CTOs and multivessel disease patients in our cath labs, but unfortunately the main limit is our cath lab budgets.

KEYWORDS: chronic total occlusion, coronary artery disease, revascularisation.

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