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## Results of programmed vs ad hoc PCI to CTO lesions

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**THEME:** Coronary Interventions

**TOPIC(S):** CTO

### AIMS

Coronary chronic total occlusions (CTOs) are a common finding in coronary catheterization. Although percutaneous CTO revascularization has improved in recent years due to current technical developments, there is not consensus on indication or ideal timing for intervention. The objective of this study was to compare elective percutaneous revascularization vs. ad hoc percutaneous revascularization in patients with a CTO since the onset of a specific program in our Department.

### METHODS AND RESULTS

We prospectively collected a total of 182 patients with CTOs treated percutaneously between September/2014 and September/2017, with 139 of them treated with elective angioplasty and 43 with ad hoc intervention. Follow up was available in all cases. Baseline characteristics of patients were similar, except for pre-treatment including dual antiplatelet therapy (40.0% in planned CTOs vs. 14.3%,  $p=0.014$ ) and statins (69.0% vs. 46.2%,  $p=0.037$ ). CTOs were more complex in elective procedures with J-Score  $\geq 3$  (55.0% vs. 32.1%,  $p=0.029$ ), with no differences in the location of CTO or Syntax score. Interventional cardiologists with specific training in CTOs performed most planned procedures (90.0% vs. 42.9% of ad hoc interventions,  $p<0.001$ ), as well, contralateral angiography (70.0% vs. 3.6%,  $p<0.001$ ), femoral artery as the main approach (73.0% vs. 7.1%,  $p<0.001$ ), 7-French catheters instead of 6-Fr (84.0% vs. 7.1%,  $p<0.001$ ), use of microcatheters (90.0% vs. 32.1%,  $p<0.001$ ), and special interventional technics as ?anchoring? (44.0% vs. 14.3%,  $p=0.004$ ) were more common in elective procedures. Planned procedures were more commonly successful than ad hoc ones (73.0% vs. 35.7%,  $p<0.001$ ) but they presented higher rate of complications including ventricular fibrillation (1.0% vs. 0.0%,  $p=0.240$ ) and cardiac tamponade (3.0 vs. 0.0%,  $p=0.240$ ), that could be solved percutaneously in all cases. No procedural or in-hospital deaths occurred in none of the groups. Independent predictors of successful revascularization included elective procedure (OR=0.254 [IC-95%:0.082-0.784],  $p=0.017$ ) and use of microcatheters (OR=0.325 [IC-95%:0.108-0.980],  $p=0.046$ ), with higher J-Score as a risk factor for failure (OR=1.556 [IC-95%:1.106-2.188],  $p=0.011$ )

### CONCLUSIONS

An elective percutaneous revascularization made by trained interventional cardiologist in specific techniques and devices for CTO, translates into a 2-fold increase of success rate as compared to ad hoc interventions and may explain the variability in clinical benefits observed across different studies.