

Clinical outcomes of PCI for CTO due to in-stent restenosis

Background; Clinical outcomes of percutaneous coronary intervention (PCI) for chronic total occlusion due to in-stent restenosis (ISR CTO) are unknown.

Methods; We retrospectively analyzed 232 consecutive CTO PCIs (195 patients) performed at our institution between 2010 and 2014. Of these, ISR CTO was observed in 45 cases (19.4%). We evaluated the clinical outcomes of PCI for ISR CTO compared to de novo CTO.

Results; Compared to de novo CTO group, ISR CTO group had higher frequency of LAD (53.3% vs. 23.5%, $p < 0.001$), lower frequency of RCA (22.2% vs. 50.3%, $p < 0.001$), and longer occlusion length (28 ± 17.4 vs. 18 ± 11.5 mm, $p < 0.001$). There was no significant difference between the ISR and de novo group in the J-CTO score (1.2 ± 0.8 vs. 2.0 ± 1.2 , $p = 0.08$), the angiographic follow-up rate (76.9% vs. 69.3%, $p = 0.43$) and the final procedural success rate (83.6% vs. 86.7%, $p = 0.82$). At follow-up (824 ± 538 and 706 ± 495 days for ISR CTO and de novo CTO), the ISR CTO was associated with significantly higher rates of reocclusion (17.9% vs. 4.6%, $p = 0.01$), TLR (30.8% vs. 5.9%, $p < 0.001$) and cumulative MACE by Kaplan-meier method (14.5% vs. 41.0%, $p = 0.004$) than the de novo CTO.

Conclusion; The procedural success rate of PCI for ISR CTO was acceptable but its mid- to long-term outcomes were poor compared to de novo CTO.