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Ticagrelor versus clopidogrel after late or very late stent thrombosis

[Purpose] There are limited data from cohorts of patients with late or very late stent thrombosis (LST/VLST) underwent primary percutaneous coronary intervention (PPCI), and many controversies remain on optimal antiplatelet therapy. We aimed to investigate the efficacy of ticagrelor versus clopidogrel after LST/VLST.[Methods] A single-center, perspective cohort of patients with LST/VLST received PPCI were stratified according to whether they were prescribed ticagrelor or clopidogrel at discharge. We constructed a Cox proportional hazards model and compared 6-month and 12-month cardiovascular outcomes between two groups. Primary endpoint was patient-oriented composite endpoint (POCE): all-cause mortality, any MI and any repeat revascularization. [Results] From January 2010 to June 2017, a total of 258 patients were included with 32.9% (85) patients received ticagrelor. The primary endpoint occurred in 19 patients at 6-month follow-up and in 39 patients at 12-month follow-up. Compared with clopidogrel, ticagrelor reduced 6-month risk of POCE (unadjusted hazard ratio [HR] 0.221, 95%CI 0.050-0.980, $p=0.031$; adjusted HR 0.340, 95%CI 0.073-1.593, $p=0.171$) but not 12-month POCE (unadjusted HR 0.476, 95%CI 0.209-1.086, $p=0.073$; adjusted HR 0.654, 95%CI 0.289-1.477, $p=0.307$). There were no significant differences in all-cause mortality both at 6 months (unadjusted HR 0.400, 95%CI 0.050-3.479, $p=0.356$; adjusted HR 0.752, 95%CI 0.080-7.076, $p=0.804$) and at 12 months (unadjusted HR 0.580, 95%CI 0.154-4.261, $p=0.580$; adjusted HR 1.428, 95%CI 0.253-8.057, $p=0.686$).[Conclusion] The risk of adverse ischemic cardiovascular outcomes in patients with LST/VLST underwent PPCI was high. Ticagrelor tended to reduce 6-month POCE but had no effect on 12-month outcomes. More effective antiplatelet therapies are necessary.