

Long-term ischemic and bleeding risk with extended dual antiplatelet therapy after PCI in patients with 2018 ESC/EACTS myocardial revascularization guideline-endorsed high thrombotic risk features

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Background: The ischemic/bleeding trade-off of continuing dual antiplatelet therapy (DAPT) beyond 1 year after PCI for patients with high thrombotic risk (HTR) as endorsed by 2018 ESC/EACTS myocardial revascularization guidelines remain unknown. We sought to evaluate the benefits and harms of DAPT with aspirin and clopidogrel beyond 1 year versus \leq 1-year DAPT on long-term clinical outcomes after PCI with DES among ESC/EACTS guideline-endorsed HTR patients that are event-free at 1 year follow-up, using a prospective, real-world registry.

Methods: Patients undergoing coronary stenting between January 2013 and December 2013 from the prospective Fuwai registry were defined as HTR if they met at least 1 ESC/EACTS guideline-endorsed HTR criteria with at least 1 of the following characteristics: diffuse (lesion length \geq 20 mm) multivessel disease in diabetic patients, CKD (estimated glomerular filtration rate $<$ 60 mL/min), \geq 3 stents implanted, \geq 3 lesions treated, bifurcation with 2 stents implanted, total stent length $>$ 60 mm, treatment of CTO, and history of STEMI. A total of 4578 patients who were at HTR and were events free at 1 year after the index procedure were evaluated. The primary efficacy outcome was major adverse cardiac and cerebrovascular events (MACCE) (composite of all-cause death, myocardial infarction, or stroke).

Results: Median follow-up period was 2.4 years. $>$ 1-year DAPT with clopidogrel and aspirin significantly reduced the risk of MACCE compared with \leq 1-year DAPT (1.9% vs. 4.6%; hazard ratio (HR): 0.38; 95% confidence interval (CI): 0.27–0.54; $P <$ 0.001), driven by a reduction in all-cause death (0.2% vs. 3.0%; HR, 0.07; 95% CI, 0.03–0.15). Cardiac death and definite/probable stent thrombosis also occurred less frequently in prolonged DAPT group. Bleeding Academic Research Consortium (BARC) type 2, 3, or 5 bleeding occurred similarly between both groups (1.1% vs. 0.9%; HR, 1.11; 95% CI, 0.58–2.13; $P =$ 0.763). Similar results were found using multivariable Cox model, propensity score-matched, and inverse probability of treatment weighting analysis.

Conclusions: Among patients with ESC-endorsed HTR who were free from major ischemic or bleeding events 1 year after coronary stenting, continued DAPT beyond 1 year might offer better effectiveness in terms of atherothrombotic events and comparable safety in terms of clinically relevant bleeding compared with \leq 1-year DAPT. ESC-HTR criteria is an important parameter to take into account in tailoring DAPT prolongation.