What is optimal dual anti-platelet therapy duration after percutaneous coronary intervention?

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To prevent ischaemic events, including stent thrombosis (ST), long-term aggressive dual anti-platelet therapy (DAPT) has been recommended for years. Over the past decade, however, it has been shown that the duration of DAPT can be safely shortened in many clinical trials. Short DAPT for 1–3 months after percutaneous coronary intervention (PCI) followed by aspirin-free P2Y12 inhibitor monotherapy demonstrated a significant reduction of bleeding events without excess cardiovascular events. However, a P2Y12 inhibitor monotherapy immediately after PCI has never been tested. The STOPDAPT-3 trial enrolled 5966 acute coronary syndrome or high-risk bleeding patients undergoing PCI, and these patients were randomly assigned to low-dose prasugrel monotherapy or DAPT. At 1 month, low-dose prasugrel monotherapy showed no reduction in the primary endpoint of major bleeding as compared with DAPT. Although prasugrel monotherapy met non-inferiority in terms of composite cardiovascular events, the monotherapy was significantly associated with higher coronary events such as subacute ST and unplanned coronary revascularization. Therefore, DAPT may have a potential benefit over P2Y12 inhibitor monotherapy for preventing coronary events at least 1 month after PCI. However, considering the relatively small differences in event rates between the two groups, it is possible that other ongoing trials would yield different results, depending on the patient population, observation period, and endpoint setting. The thrombotic and bleeding risks vary with the type of disease, the timing from event onset, stent type, racial and ethnic differences, genetic polymorphisms, and sex differences. With the accumulating evidence providing a detailed understanding of the role and magnitude of the benefit of DAPT over single antiplatelet therapy, the next step would be a tailor-made approach according to the patient’s detailed risk profile.

Data availability
No new data were generated or analysed in support of this research.

Conflict of interest: H.S. reports honoraria from Abbott, Vascular, and Boston Scientific.

References

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