The Authors Respond

The letter by Dr. Ole Hauch regarding our article "Contemporary Trends in Oral Antiplatelet Agent Use in Patients Treated with Percutaneous Coronary Internvention for Acute Coronary Syndrome" provides thoughtful insight into the contemporary use of oral antiplatelet agents in patients who received percutaneous coronary intervention (PCI) for acute coronary syndrome (ACS). As supported by other studies conducted in the United States and other countries, an increase in the use of ticagrelor among ACS-PCI patients has been universally observed, although the rates of replacement across countries has varied. In interpreting these utilization differences, characteristics of the underlying datasets, as well as the health care systems examined in each study, have to be carefully considered. For example, centrally regulated insurance systems such as those in Greece and Sweden use direct price controls, international price comparisons, and value-based administration, which may encourage the use of efficacious but costly medications.[1,2] Conversely, lump sum medication cost reimbursement would be considered as a potential control for prescription drug use in a commercially insured U.S. population, likely furthering acceptance of ticagrelor in comparison with Europe.

Our trend analysis comes with limitations in terms of characterizing factors in the selection of oral antiplatelet agents. Nonetheless, the results illustrate that recent use of antiplatelet medication generally corresponds to guideline and package insert recommendations. For example, prasugrel appears to be relatively discouraged in older patients and in patients with a history of stroke, transient ischemic stroke, or intracranial hemorrhage. Further, the 3 studies cited in Dr. Hauch's letter found that the prevalence of ST-segment elevation was higher in patients prescribed either prasugrel or ticagrelor rather than clopidogrel, which is generally consistent with our results. That said, we also observed contraindicated uses. Moreover, as the letter pointed out, prescriber preferences and factors other than clinical characteristics have to be considered. Because of the inherent limitations of retrospective analyses using an administrative claims database, the influence of prescriber preferences and plan design on the use of cardiovascular medication remain relevant areas for future research.

Dr. Hauch's letter affirms that our results suggest that a real-world effectiveness study would be valuable in understanding the use of oral antiplatelet agents in ACS patients treated with PCI. With respect to real-world outcomes associated with the 3 oral antiplatelet agents, while there have been several retrospective cohort analyses, the outcomes associated with the 3 agents have not been comprehensively covered, and there is no conclusive recommendation.[3,4] To help fill this void, our research team is following up with studies based on comparative effectiveness and health care resource utilization. Preliminary analyses, similar to the results from the pivotal randomized trials, have concluded that the use of third-generation antiplatelet agents, relative to clopidogrel, was associated with a decrease in the hazard rate of all-cause hospital admissions. In addition, patients who had initiated clopidogrel were associated with more hospital admissions, compared with those patients who were prescribed the newer agents, suggesting that there may be a meaningful cost offset to the higher price of ticagrelor or prasugrel (see Table). Whether these differences in prescription use in a commercially insured U.S. population, as compared with other countries, indicate underutilization of the newer agents will be further assessed in future studies.

TABLE Preliminary Data Analyses: Comparative Resource Utilization of 3 Oral P2Y12 Antagonists over a 6-Month Period After ACS-PCI Discharge

	Third-Generation Agents vs. Clopidogrel		Ticagrelor vs. Prasugrel	
Risk ratio, all-cause admissions	0.89	(0.78; 0.92)	1.02	(0.83; 1.19)
Risk ratio, all-cause office visits	0.99	(0.87; 1.03)	1.03	0.87; 1.22)

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DISCLOSURES

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