Editorial

# New guidelines on duration of dual antiplatelet therapy in patients with coronary artery disease: what's the novelty?

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Submitted Sep 12, 2016. Accepted for publication Sep 20, 2016.
doi: 10.21037/jtd.2016.10.98
**View this article at:** http://dx.doi.org/10.21037/jtd.2016.10.98

The "2016 ACC/AHA Guideline Focused Update on Duration of Dual Antiplatelet Therapy in Patients with Coronary Artery Disease" is a thorough consensus on duration of dual antiplatelet therapy (DAPT) in patients with coronary artery disease dealing with a large scope of different specific situations (1). One may ask if a new, long manuscript of 96 pages including the Supplements was necessary given the large amount of randomized clinical trials, meta-analyses, commentaries, editorials already recently published in this field. Undoubtedly, the answer is yes for several reasons. First, because some very recent trials have been published after the formulation of the latest recommendations for duration of DAPT in prior guidelines (2). Secondly, because after the extensive reading of these new guidelines, the reader will probably have a better understanding of the current knowledge according to the different situations he will have to deal with. The goal of these new guidelines was to update, harmonize and simplify recommendations on duration of DAPT in patients with coronary artery disease. Among the different clinical circumstances, the most debated one is the optimal duration of DAPT after drug-eluting stents (DES) (3). It is also a very frequent question in every day clinical practice because the implantation of (DES) has become a standard treatment for the management of patients with coronary artery disease. Millions of patients worldwide undergo coronary stenting each year.

The goal of these new guidelines have been reached because the different scenarios have been addressed from different angles, i.e., the duration of DAPT after stent implantation, in patients with stable ischemic heart disease (SIHD) or acute coronary syndromes (ACS), in patients with ACS treated with PCI, in patients with ACS, and in patients treated with CABG. Beside the completeness and accuracy of the analysis, the figures are of particular interest. They are very easy to read and understand and represent the exact contemporary knowledge in this debated field.

Aspirin remains the cornerstone of antiplatelet therapy in patients with coronary disease. After DES implantation, the use of dual anti-platelet therapy is critically important for the prevention of coronary stent thrombosis (4). But, for how long? To answer this question, the guidelines have addressed two questions. Is a shorter duration of DAPT after stent implantation compared to the 12 months recommended duration of therapy for most patients in ACC/AHA (5) and European Society of Cardiology guidelines (6) indicated? Is a longer duration of DAPT indicated? To answer the first question, five RCTs of patients treated with elective DES implantation have been undergone, comparing shorter-duration (3 to 6 months) DAPT with 12 months of DAPT (7-11). These studies did not find any increased risk of stent thrombosis with shorter-duration DAPT that resulted in fewer bleeding complications. It should be noted however that only two of the trials dealing with this question have compared a very short duration of 3 months compared to a longer duration. Moreover, in these two trials, patients were at low risk of thrombotic events. To answer the second question, seven RCTs, consisting predominantly of patients treated with elective DES implantation, compared prolonged DAPT (total

therapy duration: 18 to 48 months) with 6 to 12 months of DAPT to determine whether extended therapy reduces late and very late stent thrombosis and prevents ischemic events associated with disease progression and plaque rupture at other non-stented sites (2,12-17). The analysis of these studies of longer-duration ("prolonged" or "extended") DAPT for an additional 18 to 36 months after DES found an absolute decrease in late stent thrombosis and ischemic complications of about 1% to 2% and an absolute increase in bleeding complications of about 1%. This result underlines the very difficult equipoise between the thrombotic and the bleeding risks. Taken as a whole, trials of prolonged or extended DAPT suggest that the benefit/risk ratio of prolonged DAPT may be more favorable especially for those with prior MI. According to this consensus, the data as a whole do not seem to suggest that prolonged DAPT results in increased mortality as it was feared.

Finally, the guidelines state that after a DES implantation DAPT should be given for a minimum period of time (in most cases 6 to 12 months) (Class I recommendation) and may be considered beyond that period of time (Class IIb recommendation). Of course, decisions about duration of DAPT are best made on an individual basis and should integrate the clinical judgment and assessment of the benefit/risk ratio. Simple risk scores of baseline clinical variables may be useful to predict risks for ischemic and bleeding events after PCI with DES. In this context, The DAPT score is interesting in assessing the risks and benefits of continuing dual antiplatelet therapy for more than 12 months after coronary stenting. The score incorporates patient age, cigarette smoking, diabetes, myocardial infarction at presentation or earlier, prior coronary interventions, stent type and diameter, heart failure, and left ventricular ejection fraction. (18). Patient preference has also to be taken into account. This statement could appear to be bizarre but, after the essential explanations regarding risks and benefit, is probably common sense albeit not documented by randomized trials! It is not the first time that the patient preference appears in guidelines. For example, the CHEST guidelines on antithrombotic therapy for venous thrombo-embolism have already formulated that some decisions are expected to be sensitive to patient preferences (19).

In conclusion, the "2016 ACC/AHA Guideline Focused Update on Duration of Dual Antiplatelet Therapy in Patients with Coronary Artery Disease" is an important consensus summarizing many debated questions on DAPT in coronary artery disease. Clinicians are encouraged to consult this document, awaiting the results of new trials that will perhaps slightly modify it!

## Acknowledgements

None.

## Footnote

*Provenance:* This is an invited Editorial commissioned by the Section Editor Feng Zhang (Department of Cardiology, Zhongshan Hospital of Fudan University, Shanghai, China).
*Conflicts of Interest:* The author has no conflicts of interest to declare.

*Comment on:* Levine GN, Bates ER, Bittl JA, *et al*. 2016 ACC/AHA Guideline Focused Update on Duration of Dual Antiplatelet Therapy in Patients With Coronary Artery Disease. A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. J Thorac Cardiovasc Surg 2016;152:1243-1275.

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**Cite this article as:** Helft G. New guidelines on duration of dual antiplatelet therapy in patients with coronary artery disease: what's the novelty? J Thorac Dis 2016;8(10):E1301-E1303. doi: 10.21037/jtd.2016.10.98

 