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Reviewer A

I have some concerns that I would like to share with you:

1. Comment 1: The significant difference in previous MI and PCI between groups in Table 1 can have a serious impact on the results of your study. I find it as a serious limitation that makes the results very doubtful for interpretation.

Reply: The percentage of patients with previous MI and PCI was indeed higher in patients with chronic stable AP (Group 2) as compared to patients with acute MI (Group 1). However, the sites of those prior adverse events were remote from the investigated epicardial arteries. As our retrospective study explored the intrasegmental culprit lesion borders and short-term effects on stent implantation on respective landing zones, we tolerated the above-mentioned disproportions between the two study groups.

Changes in the text: We modified our text to remove possible ambiguities (see Page 5, line 107).

2. Comment 2: The number or multivessel diseases in Table 1 requires separate p values.

Reply: Separate P values for the number of multivessel diseases are now shown in Table 1.

Changes in the text: We have modified Table 1.

3. Comment 3: DO you think that significantly different occlusion rate may play a role in data interpretation?

Reply: In Group 1, 12 (35.2%) patients presented with (acute) vessel occlusions while no (chronic total) occlusions were treated in Group 2. Thrombi that had caused the occlusions in Group 1 were removed mechanically (i.e., by thrombus aspiration or small balloon inflation) before introducing an OCT probe to examine the “original” culprit lesion. We aimed to demonstrate possible differences between the study groups but failed to find any, with the exception of the TCFA density at the lesion borders. Consequently, we do not think that different occlusion rates between the study groups played a role in data interpretation.

Changes in the text: The text has been left unchanged.

4. Comment 4: In your results you presented the median +/- SD was the normal distribution presented in all parameters?

Reply: We tested data distribution in all used parameters and found the important skewness in some of them: %DS (see Table 1), combined lesion length (see Table 2), OCT features (see Table 2), and stent characteristics (see Table 3). For these particular parameters, we calculated medians and percentiles and compared the study groups using the unpaired t-test for equality of means.

Changes in the text: The text has been left unchanged.

5. Comment 5: You have performed regression analysis; I have not found uni and multivariable analysis results and I suggest to presented it in additional Table.

Reply: Uni- and multi-variable analysis results are presented in Supplemental Table 4 (see Page 11, line 238 and Supplemental Table 4). The results are represented numerically.

Changes in the text: An appropriate graphic presentation will be created upon the reviewer’s request.

6. Did you perform ROC analysis for your findings?

Reply: We did not perform ROC analysis for our findings.

Changes in the text: The text has been left unchanged.

Reviewer B

This study is interesting and unique research in CAD patient treated with PCI using OCT.

The author concluded that "Optimal landing zones for stent placement should frequently be searched for beyond the culprit lesion segments although utilizing the largest intrasegmental lumens does not seem to cause immediate harm. However, TCFA at the landings should definitely be avoided."

However, there are several problems with this study.

1. Comment 1: The authors have to describe the role of OCT and PCI endpoint in this study, because the endpoint of PCI procedure was unclear. The PCI endpoint is angio-guidance or OCT guidance? Operator guidance?

Reply: Our study was based on two assumptions: a) the distance covered by stenting should correspond with the lesion extent (ref. 4), and b) the coronary lesion is enclosed between the proximal and distal largest lumens within the same vessel segment (refs. 2 and 3). The role of OCT was to provide the largest intrasegmental lumens and assess the respective lesion border structure, while PCI served as a potential trigger for peri-procedural complications should the unacceptable RSs be chosen. Consequently, the OCT endpoint was the percentage of optimal ("normal to normal") and acceptable RSs (residual PB <40% without lipid-rich tissues, refs. 7 and 8) in the whole group, patients with acute MI, and those with chronic stable AP. Similarly, the PCI endpoint was the percentage of some periprocedural complications (i.e., TIMI blood flow ≤2, edge dissections) in the whole group, patients with acute MI, and those with chronic AP as compared with the historic group.

Changes in the text: We have changed the text as advised (see Page 8, line 172; Page 10, line 227; and Page 11, line 232).

2. Comment 2: The author should show the definition of landing zone. Who decided landing zone finally? The operators avoided TCFA, didn't they? The author should clear the detail advice for operator during PCI. The author described that stent positioning according to the OCT-determined RSs was strongly recommended. However, as a results, the readers would like to know how many cases were implanted according to only OCT findings, and geographic missing cases after stent deployment.

Reply: It should be stressed that our study was retrospective. At the time of implantation, the operators were instructed to use the largest intrasegmental lumens as the landing zones, according to the practice at the time, and avoid large lipid-rich tissues. The technicians provided the necessary measurements; nevertheless, the selection of the landing zones and stents was the operators' decision. However, appropriate selection of the landing zones is crucial as exceedingly large residual PB and particularly rich tissue at the stent edge is associated with subsequent restenosis. Therefore, in our post-hoc analysis, we stipulated that the landing zones should be optimal ("normal to normal") or at least acceptable (PB <40% without extensive lipid-rich tissues, refs. 7 and 8). In our study, PB <40% corresponded to PFW angle ≥220^{o} (ref. 9). It should be noted that PB <50% is currently tolerated (ref. 6). Finally, we were able to demonstrate using this analysis how frequently the operators miss the optimal or acceptable RSs/landing zones and the rate of unacceptable PB or the lipid-rich tissues at the intra-segmentally determined RSs.

Changes in the text: We have revised the definitions and changed the text as advised (see Page 6, line 132 and Page 8, line 168).

3. Comment 3: Without the above definitions, the conclusions are nonsense.

Reply: We agree. The revised definitions have strengthened the manuscript.

Changes in the text: We have revised the definitions and changed the text as advised.

4. Comment 4: The authors should show the number of operators in this study.

Reply: The total number of operators was 6, and expert imaging technicians were always present in the operating room.

Changes in the text: We have added the required numbers (see Page 6, line 132).

5. Comment 5: The authors have to show that OCT and QCA analysis precise method including number of analytic observers. If the number of analyzers is plural, the authors should show intra- and intra-observer variability. If not, the author should show the validity of your method. The term of "comprehensively" is unclear.

Reply: The quantitative data were acquired with appropriately tested proprietary software (Abbott Vascular, Santa Clara, CA, USA). The qualitative data were analyzed by 2 independent investigators; when there was discordance between the observers, a consensus reading was obtained. The described method is widely used, and the reviewer is kindly referred to the paper published by Kubo et al. (Am Coll Cardiol 2007;50:933-9).

Changes in the text: The text has been left unchanged.

6. The authors should show the inclusion and exclusion criteria of this study and the patients flow chart including excluded patients.

Reply: The inclusion and exclusion criteria in our study have been described in the text and the flow chart.

Changes in the text: An additional description and figure have been added (see Page 5, line 107; Page 9, line 189; and Supplemental Figure in Supplemental Material, Page 6, line 204).

7. Comment 7: The definition of TCFA is incomplete. The author should define TCFA using not only thickness of 65μmm but also TCFA angle and length.

Reply: In our study, TCFA was defined as a fibroatheroma with a delineated necrotic core and an overlying fibrous cap with a thickness of <65 μm (ref 3). More precisely, TCFA is a lipid-rich plaque with a fibrous cap thickness (FT) <65 μm and a maximum lipid arc >90° (ref. 2). It has been suggested that the lipid-core length should be measured on the longitudinal view; however, we failed to observe the inclusion of the lipid-core length in any TCFA definition. We, therefore, put the TCFA definition of Prati et al. (ref. 2) into our Supplemental material.

Changes in the text: We have revised the definitions and changed the text as advised (see Page 8, line 167 and Supplemental Material Page 3, line 97).