Author’s response to reviews

Title: Reendothelialisation after Synergy stent and Absorb bioresorbable vascular scaffold implantation in acute myocardial infarction: COVER-AMI study

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We thank the reviewer # 3 for his constructive and helpful suggestions. We have provided our responses to the reviewer’s comments and believe our manuscript is improved as a result. We have sent the revised manuscript as a new version containing all the changes.

1. We have specified both in the abstract and in the manuscript that our study is a pilot exploratory study.

2. The number of 10 patients in each group has been arbitrarily set. According to study protocol and our center’s volume, this size was supposed to be adequate for a 6-month period recruitment.

3. Patients were randomized using sealed envelopes. This point was clarified in the method section. Blindness of the investigator in charge of stent implantation was not possible, but blindness of the patient was ensured.

4. Two patients were excluded from the final analysis because they were not able to have 3-month follow-up. One patient had severe renal failure due to cholesterol embolization. This disease was not compatible with contrast use during OCT. The other patient had an
acute stent thrombosis complicated with papillary muscle rupture and cardiogenic shock. He died 3 days after initial admission.

5. Tables have been changed to mention the precise statistical test that have been used for analysis.

6. Statistical analyses at cross-sections or stent struts levels may be considered as hierarchical if we consider that the statistical units (cross-sections or stent struts) are nested at a higher level within contextual units (patient/stent). Indeed, by taking the example of uncovered struts (strut level analysis), if the uncovered struts rate is globally higher in patients treated with Synergy (7.6% vs. 2.3% in patients treated with BVS), this rate varies from a patient to another (see the below figure).

Theoretically, multilevel analyses are recommended to deal with this two level data structure. However, in some cases, this kind of analysis can be likened to over-adjustment. We strongly believe it is the case in the present study.

The aim of our study was to identify differences between these two types of stents, and each patient had only one lesion treated with only one stent type (BVS or Synergy). From our point of view, the contextual effect of the whole stent on endothelisation you suggested to account for is part of the potential differences we seek to identify. Thus, the use of multilevel modeling to account for the contextual effect of the stent in this analysis aiming precisely to identify a potential effect of stent type on endothelisation undoubtedly represents over-adjustment.

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