# Response to Letter Regarding Article "Prognostic value of CT-derived left atrial and left ventricular measures in patients with acute chest pain"

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## Response to Letter Regarding Article "Prognostic value of CT-derived left atrial and left ventricular measures in patients with acute chest pain"

We thank Siamak Sabour for the comments regarding our manuscript entitled "Prognostic value of CT-derived left atrial and left ventricular measures in patients with acute chest pain"[1]. The author expressed concern regarding the methodology of our study, which we address here.

First, he suggests to use two cohorts, one for model derivation and one for validation. Our primary aim was, however, not to develop a prediction model but to perform an exploratory analysis of CT-derived cardiac morphologic and functional factors related to future MACE. We unfortunately could not perform an analysis in a validation cohort due to the limited sample size. Another method of correcting for model optimism is bootstrap validation [2], which when applied to these data demonstrates a shrinkage factor of $> 0.90$ (using 1000 bootstrap samples) for both LA anterior-posterior diameter and LV mass, hence the level of optimism in the original model is limited. We agree that our results should be confirmed in other cohorts. Second, Siamak Sabour correctly suggested to take interaction terms between predictors into account. Hence, we also evaluated interaction terms and found no interaction ($P > 0.13$) between the significant predictors. Based on these additional analyses, we regard our previously published results as valid. All additional analyses were performed with the statistical software R (version 3.42, R Foundation for Statistical Computing, Vienna, Austria) and the package "rms" (version 5.1-1).

### References

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[2] M. Pavlou, G. Ambler, S.R. Seaman, O. Guttmann, P. Elliott, M. King, R.Z. Omar, How to develop a more accurate risk prediction model when there are few events, BMJ 351 (2015) h3868.

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