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Does heart rate variability correlate with long-term prognosis in myocardial infarction patients treated by early revascularization?
Compostella L *et al*.

Authors Answers to Reviewer's Comments

Reviewer 00227622

Comment: Limitations of this study have been pointed out by the Authors. These are important data that need confirmation.
Authors' answer: Thank you very much for your kind comment. Few data still exist on the prognostic value of heart rate variability in AMI patients treated by immediate reperfusion. We believe that our work could contribute to the knowledge in this field. We are aware of the limitations of the study, and reported them in the Limitations paragraph, as observed by the Reviewer.

Reviewer 01593993

Comment #1: ... Depressed HRV was present in 16% and 4% of STEMI and NSTEMI patients respectively. ...
Authors' answer: Based on the Reviewer's comment, we understood that the first sentence in the Abstract (page 4 of the manuscript) was formulated in an unclear manner and may induce to misunderstandings. In fact, 16% of patients presented SDNN <70 ms, and 4% of patients presented SDNN <50 ms, both in STEMI and NSTEMI cases. So we reformulated the sentence, dividing it into two parts: "Markedly depressed HRV parameters were present in a relatively small percentage of patients: SDNN <70 ms was found in 16% and SDNN <50 ms in 4% of cases. No significant differences were present between STEMI and NSTEMI cases as regards to their distribution among quartiles of SDNN (χ^2 1.536, p = 0.674)."

Comment #2: ... immediate reperfusion has been able to improve prognosis despite not being able to reduce HRV abnormalities. Please elaborate on it. ...
Authors' answer: Thank you for your comment. We believe that it was exactly the timely reperfusion that modified long-term prognosis, in spite of not having clearly modified HRV in the short-term (activation of the sympathetic autonomic nervous system in the first phases of AMI, persisting for the first 2-3 weeks). Long-term prognosis is (in our humble opinion) linked to various concomitant factors: preserved myocardium, better myocardial "pump", multiple drug therapies, exercise-based rehabilitation. We presented these ideas on pages 17, 18 and 19 of the manuscript.

Comment #3: ... also involves ...NSTEMI... Please change the title according to the type of patients included.
Authors' answer: We agree completely with the your comment. We changed the title accordingly.

Comment #4: Please indicate mean EF and % of patients with EF<40% in each group.

Authors' answer: We cited LVEF and its correlations with HRV, but - as the Reviewer correctly pointed out - mean values of LVEF and percentage of patients with depressed EF were not reported. We included two lines in the Table with such data.

Comment #5: Discussion is too long. I suggest shortening it.

Authors' answer: Indeed, Discussion is 3 pages long (in a total of 13 of main text). We discussed on what was possible to simplify or shorten. In Discussion we deal with 1- prevalence of depressed HRV in patients treated by early reperfusion, 2- its comparison both with pre-primary-PCI and primary-PCI studies, 3- comparison of HRV between STEMI and NSTEMI, 4- long-terms outcomes in STEMI and NSTEMI patients according to values of HRV, 5- differences in the prognostic significance of HRV among pre-primary-PCI studies and our one (as well some of the most recent - small scale - studies). Furthermore, long-term prognosis was analyzed not only for mortality, but also for major clinical events. So, we tried but were not able to modify substantially and reduce the overall length of Discussion. We hope this could be anyway acceptable.