Author's response to reviews

**Title:** Native cardiac reserve predicts survival in acute post infarction heart failure in mice

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**Author's response to reviews:** see over
Eugenio Picano, MD, Editor-in-Chief
*Cardiovascular Ultrasound*

7 Nov, 2007

Ref.: Ms. No. 9517474021640622
Native cardiac reserve predicts survival in acute post infarction heart failure in mice

Dear Dr Picano,

We appreciate that you have accepted our manuscript for publication. The reviewer’s suggestions were valid and most valuable. We have responded and revised the manuscript accordingly. We hope that these alterations will be satisfying.

Yours sincerely,

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Reviewer 1

A very interesting, provocative and to my knowledge original study, showing that a reduced native cardiac inotropic and chronotropic reserve is a predictor of worse survival in mice with acute myocardial infarction. I have only minor comments:

1. Abstract missing in my copy! Please, add.

Author response:
The abstract is now added

2. Methods: please, add 1 figure showing the experimental setting: mouse, echo machine, transducer, technique of insonation.

Author response:
A new figure is now added to the method section on page 4 line 2 and line 7

3. Results: do you have data on Pressure/Volume relationship? This is a stronger index of cardiac reserve than fractional shortening, and can be easily obtained. End-systolic volume of left ventricle can be derived with Teichholz method from your left ventricular end-diastolic diameter, systolic pressure should be available, the delta (rest-peak stress) Peak Systolic Pressure/End-systolic Volume approximately left ventricular elastance (Bombardini T, Cardiovasc Ultrasound. 2005;3:27).

Author response:
Unfortunately no pressure was obtained during the echocardiographic examination since this experiment needed to be non-invasive due to the experimental setup of inductions of myocardial infarctions. However, this would have been of most interest and in the future non-invasive models of pressure measurements will be looked into.

4. Discussion: can a reduction in Beta-1 receptor density and/or sensitivity account for reduced inotropic or chronotropic reserve and be responsible of observed findings?

Author response:
We acknowledge this possibility and additional comments have been made in the manuscript. In the discussion page 7 lines 13-16.

5. Please, correct some minor spelling mistakes: i.e., page 5, line 1: finish is Finnish.

Author response:
The manuscript has now been changed after revision by a professional scientific editor.

6. References are not properly formatted

Author response:
The references have now been properly formatted.
Reviewer 2

This is an original and important report linking cardiac reserve to a protective effect on subsequent myocardial infarction in a mice model.

Minor comments:
1. Tables (1 and 2) are quoted in the text but missing in my copy. Please add
   Author response:
   The tables are now added into the manuscript.

2. Please add a figure with the study protocol and another one with the experimental echocardiographic setting.
   Author response:
   Two new figures are now added to the manuscript, one in the method section under Anesthesia and Echocardiography, page 4 line 2 and line 7 and the other one under Induction of myocardial infarction on page 5 line 10.