Reviewer's report

Title: At a distance preconditioning in normal and hypertrophic rat hearts

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Reviewer: Andreas Efstathiou

Reviewer's report:

Dear Editor,

It is really a honor for me to accept the invitation to review a manuscript for the Journal of Cardiothoracic Surgery.

My comments on the paper titled “At a distance preconditioning in normal and hypertrophic rat hearts” submitted by Voucharas et al are:

1. The authors present an experimental study concerning remote ischemic preconditioning of the normal and the hypertrophic rat myocardium. The study is of contemporary interest because:
   a. it is the first time remote preconditioning is studied in relation to hypertrophic heart
   b. great interest has been given lately in clinical application of remote ischemic preconditioning (as well as in per- and post-conditioning) in humans. So any experimental evidence about the powerfulness of the phenomenon is useful.

2. The writing is comprehensible. The methods are appropriate and well described, and sufficient details are provided to allow others to evaluate and/or replicate the work. Discussion and conclusions are well balanced and supported by the data.

However the text could be more comprehensive making the following discretionary alterations:

a. In “methods – model of hypertrophy- 1st paragraph: “There was no evidence for heart failure”. How is heart failure documented? Details are needed.

b. In “methods – model of hypertrophy- 1st paragraph: it should be mentioned that corticoid/salt model of hypertrophy is a pressure overload induced cardiac hypertrophy model; that will make discussion on page 10 (line 4) more comprehensive.

c. In “methods – model of hypertrophy- 2nd paragraph: Taking account of the quantity and the concentrations of the salt/fludrocortisone solution, the standard corticoid intake should be 0.00025 mg per animal per day; or should the corticoid concentration be 0.02 mg %. The matter needs a clarification.

d. In methods - statistical analysis: “…differences between SDs in compared groups (raw data) were due to random sampling”, should be “differences between SEMs in compared groups (raw data) were due to random sampling”.


e. There should be a more detailed presentation (extra graphical presentations with means and SEMs, without baseline results) of the results for each separate category (LVDP in normal either preconditioned or not group, LEVDP in normal either preconditioned or not group, etc) of the groups under comparison.

f. Table 1 should better have explanatory subtitle (for example: body weight did not differ between normal and hypertrophic heart rats, while heart weight/body weight ratio was considerably different)

g. Table 2 should better have explanatory subtitle (for example: the couples of the groups that were compared did not significantly differ)

h. Figure 1 could be omitted since isolated rat hearts is a very common view in animal laboratories and adds nothing to the study.

In conclusion, according to my opinion, the study under peer review satisfies the journal’s criteria for publication under discretionary revisions.

All my respect,
Andreas Efstathiou, MD, PhD

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.