Reviewer's report

Title: Influence of the incremental step size in work rate on exercise response and gas exchange in patients with pulmonary hypertension: a prospective controlled study

Version: 2 Date: 20 September 2007

Reviewer: Sue Revill

Reviewer's report:

General

This is a straightforward study comparing a ramp and a one minute step protocol in patients with pulmonary hypertension. Since a uniform step protocol is simpler to apply in routine clinical practice the aim was to determine if there were meaningful differences between the protocols for VO2peak, VO2AT and ventilatory efficiency. The group of 23 patients was classified according NYHA/WHO classification leading to 11 patients undergoing a 10 watt/minute ramp test and 12 patients undergoing a 5 watt/minute ramp test. All patients performed the Jones protocol with 16 watts/minute stepped increments. Patients attended on consecutive days and the test order was randomised. The authors found no significant differences between protocol type for the variables of interest.

There are a number of points concerning the methodology and analysis that require clarification or expansion.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

The paper is short on methodological details.

1. The figure referred to in the methods section ‘Exercise Testing’ is missing. Further clarification is needed of the randomisation of test order and also the numbers performing each type of test on day 1 i.e. was there an equal split?
2. Did the researchers encourage patients during the exercise? if so how was this done
3. Were the patients naïve to CPETs?
4. The authors do not mention whether the protocol type was presented in blinded fashion to either the operator (person conducting the test) or the patient. This is a short-coming of the methodology and should be highlighted in the discussion.

Analysis

1. The paper should contain a graph or table of the mean and 95% CI's of the
differences between tests for the variables of interest.
2. Was there an order effect e.g. were the measurements systematically different over the 2 days because of practice or fatigue effects.
3. Why did patients stop exercising – please state the reasons patients gave for terminating exercise

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1. page 3: ‘Further doubts on the need of the necessity………….’ The authors should consider re-phasing.
2. page 3: ‘In this study the results of CPET were independent on different…’ Spelling mistake change to ‘of’.
3. page 4: state whether the PAP measurement is the mean (SD) for group
4. page 4: ‘Each subject performed two exercise tests in randomised order on two consecutive days…………………’ this sentence could be misinterpreted - please clarify.
5. page 8. ‘In parallel to this independence of oxygen uptake and…………..’ This sentence is not easy to follow and the authors should consider re-phasing it.
6. Table 1 Spelling error - protocol at the top of the table

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Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

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

Declaration of competing interests:
I declare that I have no competing interests