Reviewer’s report

Title: Hormonal aspects of overtraining syndrome: a systematic review

Version: 0 Date: 27 Sep 2016

Reviewer: Julien Louis

Reviewer's report:

Majors:

This review investigated the role of hormones in the development and detection of Functional Overreaching/Non Functional Overtraining/Overtraining in athletic populations. This study deals with an important concern in sport (especially in elite sport where the physical strain can be very strong and in endurance based activities where the training load is generally very high). However, one main limitation of this review relies on the fact that it is mainly a methodological review, discussing methodological aspects rather than the physiological effects of alterations in hormonal status. Moreover, it is surprising that catecholamine (epinephrine and norepinephrine) were not taken into account in the search of relevant references for this review. Indeed several articles (e.g. from Le Meur et al., Schaal et al., Aubry et al.) have reported significant alterations in catecholamine release in overreached individuals.

Statistical analyses are weak, please develop this part by presenting the statistical tests used to analyze your data. Analyses of correlation between hormonal markers and the occurrence of overreaching would be a plus and help the understanding of the results.

In the results section, please present the results of your investigations (what hormones are related to overreaching or overtraining?) rather than just presenting the methods used.

Finally in its current form, this review suffers from this lack of references (only 14 in the reference section). The authors are invited to develop the results and discussion section with relevant references.
Minors:

In table 1.

The study conducted by LeMeur et al. was conducted in 2014 and not 1985.

Catecholamine is not written "cathecolamines", please amend accordingly.

To sum up, while this paper raises a very interesting and relevant question in exercise physiology, it suffers from his lack of results and references. The authors are encouraged to develop stats, results, discussion and reference sections in order to add a true contribution to scientific liter

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

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