Reviewer’s report

Title: Serum macrophage migration inhibitory factor reflects adrenal function in hypothalamo-pituitary-adrenal axis in septic patients: an observational study

Version: 6 Date: 6 November 2009

Reviewer: Reinaldo Salomão

Reviewer’s report:

In this manuscript, Takashi and coworkers have investigated the association between the serum levels of macrophage migration inhibitory factor (MIF) and adrenal function in hypothalamo-pituitary-adrenal axis in septic patients. Their approach is sustained by previous reports linking glucocorticoid and MIF interactions.

This is a prospective, one-center observational study, in which septic patients were assessed for adrenal response and MIF serum levels. Enrolled patients were classified as normal adrenal response group (NAR group) and adrenal insufficiency group (AI group). The authors found a significant negative correlation between MIF sera levels and delta max cortisol and delta max cortisol/albumin ratio. A ROC curve showed that MIF could discriminate NAR and AI groups.

The main flaws of the study are mentioned by the authors, and include one center study, small number of patients in each arm, and lack of demonstration of causal association between MIF and adrenal response. However, the work provides interesting information, which reinforces MIF as a good biological marker for patients with sepsis.

Minor suggestions:

The first paragraph could be rephrased: it sounds as polymixin B trial having strong support than other cited trials.

The figure 1 citation in last paragraph of page 5 could be placed before the last phrase, since this information (none of the patients ...) is not present in figure 1.

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.

Declaration of competing interests:

I declare that I have no competing interests