Reviewer's report

**Title:** Plasma, salivary and urinary cortisol levels following physiological and stress doses of hydrocortisone

**Version:** 2  **Date:** 23 September 2014

**Reviewer:** Maria Fleseriu

**Reviewer's report:**

This is a very well written manuscript and I applaud the authors for their effort.

I would suggest adding to the title "in healthy volunteers" to better describe this interesting study.

The good correlation here between salivary and plasma cortisol is very interesting, if it will be also proven true in patients with adrenal insufficiency. Salivary cortisol could potentially be a useful and easy to perform tool for monitoring glucocorticoid replacement in patients who are not doing well on their current dose and to avoid overreplacement. I would recommend the authors to add in the discussion potential limitations and accuracy in using salivary cortisol in patients with multiple co-morbidities, e.g. hypertension and/or on multiple medications.

**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.