Reviewer's report

Title: Relating circulating Thyroid hormone concentrations to Serum Interleukins-6 and 10 in association with non-thyroidal illnesses including Chronic Renal insufficiency

Version: 2 Date: 20 August 2007

Reviewer: Ramzi A Ajjan

Reviewer's report:

General
The manuscript describes the association between plasma thyroid hormone concentrations and levels of IL-6 and IL-10 in subjects with non-thyroidal illness (NTI). Although this topic has been covered previously, the authors have 3 different groups of subjects with NTI, adding additional information to our existing knowledge in this area.

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

1. The control group seems to have a significantly lower mean age. The inclusion of an age and sex matched control group will strengthen the data.
2. The authors note that cytokine concentrations were “enormously above the upper limit” of detection (results section paragraph 2), posing a question mark over the validity of the data. Have the authors tried to dilute the samples?
3. In the myocardial infarction (MI) group, was there a relationship between cytokine and/or thyroid hormone levels and severity of MI?
4. More clinical details on the chronic renal failure group would be useful (creatinine levels, dialysis treatment, cause of renal failure).
5. The authors state that this is a randomised controlled prospective study. However, only a single measurement was made and therefore this is a cross-sectional, observational study.

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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. Methods: the section on TSH/T3 and T4 measurements can be shortened as these are well established techniques.
2. Change rows to columns in Table 2 to make it consistent with Table 1 and easier to read.
3. In Table 1, change 74133 to 74.33

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4. The introduction and discussion can both be shortened.
5. There are some typos/inconsistencies/omissions in the references (such as reference 57, 55, 34, 25, 19, 13, 9…etc…)

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:** Needs some language corrections before being published

**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