Reviewer's report

Title: Procalcitonin predicts all-cause and cancer mortality in apparently healthy men: a prospective population-based study

Version: 1 Date: 24 March 2013

Reviewer: Jiri Parenica

Reviewer's report:

Cotoi et al report study evaluating an association of inflammation mediator procalcitonine with total and cancer mortality. Analysis is performed on a large cohort of 3322 patients with median of follow up 16.2 years. Monitoring of study end-points – mortality and incidence of cancer – is established via registers, but it could be supposed that total mortality and especially cancer mortality are correctly and reliably captured in the registries. The authors have found an important association between increased baseline level of procalcitonine and total and cancer mortality in a cohort of 1467 men. The association was still significant even after the results were adjusted for age, hypertension, diabetes mellitus, LDL, HDL, TG, renal function assessed using cystatin C, BMI and smoking. A similar association was not found in a cohort of women. As a very interesting result was observed relationship between the baseline level of PCT and incidence of colon cancer in men, despite the total number of males with this type of cancer was relatively low – 19 cases.

Nevertheless, the manuscript can be improved in a following points:

Minor revision:

It is unclear whether PCT could be a useful marker in a prediction of an increased risk of cancer or total mortality in a clinical practise. I propose to use time dependent ROC analysis or a similar methodology and try to find a cut-off value, which could serve for the long-term stratification of risk of total and cancer mortality, respectively occurrence of colon cancer, in healthy men in clinical practise.

I would suggest change the title, as the results confirmed relationship between increased level and procalcitonine, but there is no clear cut-off for procalcitonine predicting pure prognosis.

1. Is the question posed by the authors new and well defined? Yes.
2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work? Yes.
3. Are the data sound and well controlled? Yes.
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes.
5. Are the discussion and conclusions well balanced and adequately supported by the data? Yes.
6. Do the title and abstract accurately convey what has been found? No.
7. Is the writing acceptable? Yes.

**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.