Reviewer's report

Title: Oxidative stress level is associated with performance status but not survival in terminally ill cancer patients: a preliminary study

Version: 1
Date: 14 December 2013

Reviewer: David Hui

Reviewer's report:

Thank you for the opportunity to review this manuscript. The authors conducted a prospective study to examine the prognostic utility of oxidative stress and vitamin C level in terminally ill cancer patients. They enrolled 65 patients, and found that oxidative stress and vitamin C were not associated with survival. High oxidative stress was associated with poor performance status in univariate and multivariate analysis.

Strengths: Oxidative stress and vitamin C levels have not been examined in detail in the palliative care population. The study also included collection of PaP score.

Major Compulsory Revisions:
1. Key methodologic details missing.
   a. Methods. Were patients with delirium excluded? If not, how were they consented?
   b. Methods. Symptoms such as fever, anorexia, dysphagia, dyspnea on exertion were also collected. Please include more details about how they were actually collected (e.g. from patients or health professional judgment, what time frame anchor, yes/no or rating scale).
   c. Methods. Who assessed ECOG performance status?
   d. Statistics. No sample size calculation was provided. The authors stated in discussion that they could not estimate the appropriate sample size because no prior studies were done. However, it would be possible to determine post-hoc how large a difference they could detect with 90% power and alpha=5%.

2. Some key results missing
   a. In Table 1, survival was reported as median (IQR). Please report the 95% CI for the entire cohort. How many patients died at the time of assessment and how many were still alive.
   b. Please provide a breakdown of Pap score variables in Table 1.
   c. Please explain what descriptive statistics were used for the lab findings in Table 1. Median (interquartile range)?
   d. Please also report the median survival (95% CI) for each group (e.g. high vs. lower oxidative stress, high vs. low CRP) in Table 2.
e. As an exploratory analysis, were oxidative stress and vitamin C associated with each other, CRP level, clinician prediction of survival and PaP score. This would be very useful to the readers.

Minor Essential Revisions:

3. In the abstract, “performance” should be replaced with performance status. Also, a more in depth reporting of the key positive and negative findings including statistics should be including in the abstract.

4. Methods. “65 consecutive terminal cancer patients were enrolled.” This seems like a small sample. A study flow chart documenting the number of patients screened, approached, and enrolled with reasons for non-enrollment would be useful.

5. Discussion. A more in depth discussion of the findings and interpretation would be helpful. For instance, the lack of significance for survival could be due to (1) true negative finding – oxidative stress is not helpful to discriminate in patients with a short survival, (2) false negative finding - small sample size, artificial cutoff.

**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