Reviewer's report

Title: Survival in Overweight Patients with Advanced Pancreatic Carcinoma: A Multicentre Cohort Study

Version: 2
Date: 2 May 2014
Reviewer: Evan Ong

Reviewer's report:

The study entitled “Survival in Overweight Patients with Advanced Pancreatic Carcinoma: A Multicentre Cohort Study” by Kasenda et al. is a European multicenter retrospective study evaluating the effect of Body Mass Index (BMI) on the survival of patients with Stage 3 and 4 pancreatic cancer. They reviewed and analyzed 483 patients and divided them among 4 BMI tiers. They found a statistically significant difference in survival among the groups with those patients with larger BMI having a worsening survival. Patients with improving performance scores (ECOG) had a better prognosis. The paper is concise and well written with appropriate statistical analysis using Cox regression analysis and Kaplan-Meier.

While the study shows results consistent with previous studies, there are some findings that were unexpected.

Major Compulsory Revisions:

1. The data demonstrates that patients with the lowest BMI had the best survival. There was no discussion or explanation of this findings. This is surprising because I would expect that patients with the lowest BMI to be associated with tumor cachexia or with a higher frailty index, yet these patients did the best. This abnormal finding may be representative of the small number (~45 patients) of patients in that group where one death may significantly affect Kaplan Meier. However a discussion of this findings should be provided.

2. Patients included are Stage 3 and 4 and it is assumed that this represents equivalent groups of patient, however I believe this needs to be addressed in this study. There is no breakdown of the number of Stage 3 or Stage 4 patients within the 4 BMI groups and could introduce false bias into the analysis. For example, the authors do report that many of the patients with the highest BMI did not undergo 2nd line therapy which could change the overall survival. Similarly, without a breakdown of the Staging of patients within the 4 groups, the patients with the highest BMI could be more Stage 4 and those with the lowest could be Stage 3 patients. This could also explain the findings of Major Issue 1 above. While separating or removing Stage 3 patients from Stage 4 patients would decrease the power of the study, I believe this needs to be addressed before consideration for publication.

Discretionary Revisions:
1. Also a concern for the statistical validity of this study was that almost a third of the patients did not have an accurate BMI. The authors discuss the fact that the data was “imputed” using accepted methods, but again remains a large flaw in this retrospective study. However, I believe the message that BMI should be included as data for clinical research and should be noted to effect survival remains reasonable and valid.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests