Reviewer's report

Title: Quality of life predicts survival in patients with lung cancer

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Reviewer: Akif Turna

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Major Authors investigated the relationship between EORTC QLQ-C30 and QLQ-LC13 and survival. There are a number of issues regarding study design, analyze and reasoning.

- First of all, authors pooled all patients with early- stage and locally-advanced stage disease, patients with non-small and small cell lung cancer and analyzed. In order to analyze additional prognostic factor, authors should have documented the impact of conventional prognostic factors such as T, N and M factor in the first place as a validation of the prognostic prediction model. However, there is no information on this respect. The surgically treated patients should have been analyzed separately since there should be a mortality owing to surgery and QLQ scores should be better in these patients since there were no metastasis and they should have had less tumor mass causing systemic morbidity.

- In a 'state-of-the-art survival model, firstly one should accomplish 'Kaplan-Meier' survival estimation test followed by 'log-rank' test and Cox proportional hazard test. However, in the paper, authors first indicated the importance of EORTC QLQ-C30 as a prognostic factor, and Cox test and Kaplan-Meier analysis was mentioned. There was no log-rank test given in the text.

- The quality of life can be affected a number of factors including patient’s comorbid status (diabetes, cardiac disease etc), pulmonary functions, applied therapeutic modality such as surgery/chemotherapy/ radiotherapy. These possible factors were not given and analyzed before ‘quality of life’ scores

- Conventional prognostic factors such as T,N and M are associated with disease extention and its invasion. Understandably, survival of patients is associated with these factors. However, QOL is primarily associated with patient's current condition(age, performance status, comorbid disases etc). For this reason, it is plausible to suggest that QOL could be a result of disease and patient status not a primary 'cause' of patient's survival. However, QOL seemed to be related to be survival indirectly, not by a 'causative' mechanism. Authors should have been aware of this phenomenon.

- Authors did not give the details of surgical ( how many pneumonectomies/lobectomies/bilobectomies?) and oncological (chemotherapeutic agents, dose and route of irradiation etc)therapies which theoretically should have been related with patient's outcome.

- 'Mortality' and ' Survival' were used interchangeably in the article. However,
these terms represent different outcomes.

- In the manuscript, authors did not give the criteria for adjuvant therapy following surgical therapy, inclusion and exclusion criteria for chemotherapy/radiotherapy in patients with locally advanced lung cancer.
- There was a need for validation of EORTC QLQ-C30 and LC-13 in Mandarin dialect and in Taiwanese.

The manuscript failed to show the importance of QOL scales on survival in NSCLC patients.

**Level of interest:** An article of limited interest

**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