Reviewer's report

**Title:** Bioelectrical impedance phase angle in clinical practice: implications for prognosis in stage IIIB and IV non-small cell lung cancer

**Version:** 2  **Date:** 16 August 2008

**Reviewer:** Seward B Rutkove

**Reviewer's report:**

In this straightforward, retrospective study, the authors identify that reductions in the BIA’s phase angle hold prognostic significance in patients with non-small cell lung cancer. They identify that using a cut-off value for phase angle of 5.3, they can separate the groups into those with a longer survival from those with shorter. In addition, they identify that with each increase in phase angle of 1 degree, there is a 0.79 reduction in relative risk.

**Major Compulsory Revisions:**

1. It is unclear how the 5.3 degrees value for the univariate analysis was chosen.
2. There is a strong independent association between age and phase angle. Thus, age must be clearly adjusted for in the multivariate analysis and discussed in the univariate (e.g. what was the mean age (+/-SD) of the below and above 5.3 degree groups). If one corrects for age, do these effects still hold?
3. We are provided no information as to when in the disease course the phase angle was measured. Was it measured repeatedly? If so, which measurement was utilized for this analysis?
4. What devices were used to do this measurement? Was there more than one? If so, were they calibrated to one-another?
5. Was a linear Cox model utilized? If so, this is probably not accurate as there is a floor effect with phase angle rarely, if ever, reaching much below 2 degrees. So a degree difference in phase will may have a much greater relative risk between 2 and 3 degrees than 7 and 8 degrees. This point needs to be addressed.
6. It would be helpful to provide a histogram of the phase angles across the group of patients studied here.

**Minor Essential Revisions:**

1. Phase angle is measured in degrees. The authors repeatedly use the term “phase angle score.” They should simply provide the phase angle in degrees.
2. Standard deviations should be given for age and phase.

**Discretionary Revisions:**

1. If the authors measured the phase angle more than once per patient, the relative declines in its value over time may be especially informative.
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: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests