Reviewer's report

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

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Reviewer: Ingvar Bosaeus

Reviewer's report:

This manuscript reports the prognostic role of BIA-derived phase angle in advanced NSCLC in a case series of 165 patients. Patients with a phase angle below the median (5.3) had a shorter survival that remained significant after adjusting for stage at diagnosis and prior treatment history. It is concluded that phase angle is an independent prognostic indicator in patients with stage IIIB and IV NSCLC, and that nutritional interventions targeted at improving phase angle could potentially lead to an improved survival in patients with advanced NSCLC.

This study extends previous observations, by the authors and others, on the relation between phase angle and survival in different forms of advanced cancer and other conditions. As previously stated by the authors (AJCN 2004;80:1634-38, Ref. 32), studies of various cancer types with large sample sizes are needed to further validate the significance of phase angle in cancer treatment settings. The study results are thus of importance in contributing to this.

Comments:

As discussed on lines 158-166, previous reports have found a phase angle below the median of the study sample to be predictive of survival in lung cancer, colorectal and pancreatic cancer, but the median phase angle reported has varied considerably, from 4.5 in the previous lung cancer report by Toso et al (Ref 33), to 5.6 in the authors’ previous report in colorectal cancer (Ref 32). In order to better understand what factors that may influence phase angle, it would be of interest to have more details on this. Was phase angle different in males versus females? In the reports discussed, was median survival time very different or similar?

The conclusion in the abstract regarding nutritional interventions is not addressed in the discussion part, as far as I can see. Other factors than nutritional – such as metabolic changes driven by systemic inflammation – may be important in the development of cancer cachexia. Do the authors have any data on this?

In the methods section, referral is made to a breast cancer manuscript, not available to me. I would prefer to have the methods used clearly described to enable the reader to make a judgement. Also, as in all BIA research, the specific equipment and measurement protocol used should be clearly described.

Level of interest: An article of limited interest
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.