A low phase angle by bioelectric impedance analysis does not predict clinical outcome in HIV-1-infected Chinese patients in the HAART era

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Background: Wasting is a known adverse prognostic marker in HIV disease. The phase angle by whole body impedance analysis (BIA) measures the nutritional status and has been shown in the pre-HAART era to determine long-term survival in HIV infection.

Objective: To evaluate whether phase angle by BIA is a prognostic marker of clinical endpoints in HIV-1 infected Chinese patients in the HAART era.

Methods: Consecutive Chinese subjects who first attended an HIV Clinic in Hong Kong from Jan 1, 2003 to Mar 31, 2005 were recruited. Patients were excluded if they were already on antiretrovirals or received a diagnosis of AIDS-defining illnesses in the 3 months before and after first consultation. Baseline BIA was performed for all subjects within 2 months of first consultation. Subsequent BIA was not performed. Patents were followed at least every 3 months for development of AIDS-defining illnesses and death. If HAART was used, it would be counted from the fourth month onward as patient-years. Time to clinical progression and death was calculated by using Cox proportional hazards models.

Results: A total of 151 patients were recruited. The median phase angle was 6.87^{o}, median CD4 count was 291 and median viral load 55,000 copies/ml. Fifty-six patients were started on HAART in the study period. Thirty-four clinical events occurred. In the univariate analysis, using the highest quartile as reference, a phase angle in the lowest quartile (0-6.2^{o}) was associated with a rate ratio of 8.18 (95%CI 1.007-66.59) of reaching clinical endpoints, including death. Baseline CD4 count and viral load, use of HAART and age were also predictive. In multivariate analysis, only the baseline CD4 count and use of HAART remained significant.

Conclusion: The phase angle by BIA does not predict clinical outcome in Chinese HIV-1 infected patients in the HAART era.

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