Abstract

Introduction: Malnutrition is commonly and frequently under-diagnosed in clinical settings in patients with chronic liver disease (CLD) due to the limitations of nutritional evaluation methods in this population. We hypothesized that the bioelectrical impedance analysis derived phase angle (BIA-derived PhA) might be considered as a nutritional indicator in CLD since it represents either cell death or malnutrition characterized by changes in cellular membrane integrity. Objective: The aim of this study was to evaluate the BIA-derived PhA as a nutritional evaluation tool in all stages of CLD, including chronic hepatitis, liver cirrhosis and hepatocellular carcinoma (HCC). Liver-related death and survival were evaluated. Methods: A total of 66 patients were enrolled in a crosssectional study. For the nutritional diagnosis, mid-arm circumference (MAC), triceps skinfold thickness (TST), mid-arm muscle circumference (MAMC) and Subject Global Assessment (SGA) were evaluated. Biochemical and clinical evaluations were performed. Results: Our results showed that PhA was higher in well-nourished patients, according to SGA and in the patients without hepatic encephalopathy. PhA correlated significantly with MAMC, MAC and albumin and was inversely correlated with age. No correlation was found between PhA values and the Child-Pugh score and ascites. PhA was strongly associated with survival and PhA  > 5.18° with relative risk increase of 2.5 for death. Conclusions: We conclude that the BIA-derived PhA is a relevant nutritional evaluation tool in chronic hepatitis, liver cirrhosis and HCC and the role of PhA in the prediction of survival in CLD should be examined further in a controlled study.

Keywords

Phase angle, Subject global assessment, Chronic liver diseases, Nutritional status, Anthropometry.