NUTRITIONAL EVALUATION FOR DIALYSIS PATIENTS: BODY MASS CELL (BCM) ANALYSIS DOES NOT REPLACE TRADITIONAL ANTHROPOMETRIC EVALUATION

Aicardi Spalloni V., La Milia V., Longhi S., Violo L., Del Vecchio L., Pontoriero G., Locatelli F.

A. Manzoni Hospital, Lecco, Italy

INTRODUCTION AND AIMS

Since malnutrition is a mortality risk factor in dialysis patients, periodical evaluation of nutritional status is of importance. However, the use of traditional measurements (brachial circumference, skinfolds, etc.) is challenging and it requires an expert dietician. Body Composition Monitor (BCM) measured with bioimpedance is an easier and more standardised method to assess nutritional and hydration status.

METHODS

We evaluated the nutritional status of 150 dialysis patients (mean age 67.5 ± 14.6 years; F/M 55/88; HD/PD 115/28) with traditional anthropometric parameters and BCM. The same dietician performed all the measurements. Seven patients with major amputations were excluded from the study.

RESULTS

During traditional anthropometric analysis, 53 patients (37%) showed decreased Lean Body Mass (LBM): 14 (9.8%), 20 (14%) and 19 (13%) had a mild, moderate and severe decrease in LBM, respectively (Figure 1). 81 patients (57%) had decreased Fat Body Mass (FBM). In 27 (19%) of them the FBM loss was severe. Conversely, 14 patients (10%) showed an increase in FBM, with 8 (6%) patients who were obese. 9 patients (6%) had a severe loss of both LBM and FBM (Figure 2).

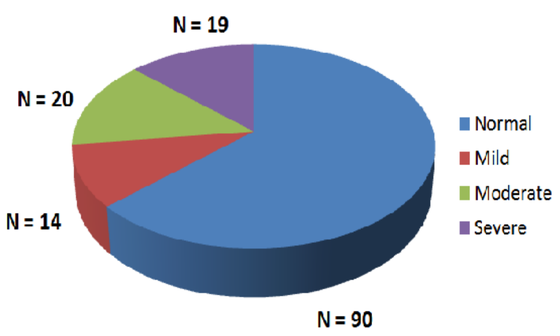


Figure 1: Lean Body Mass (LBM)

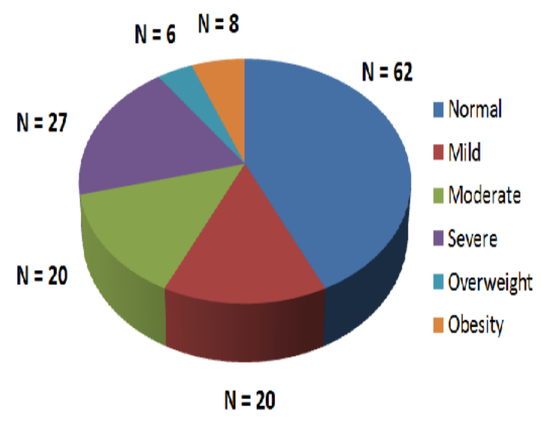
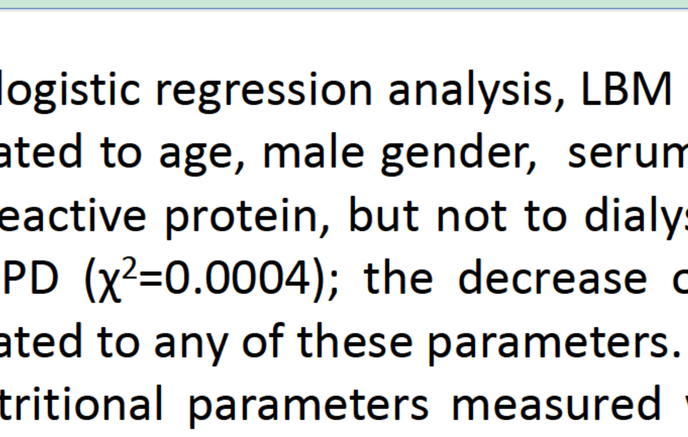
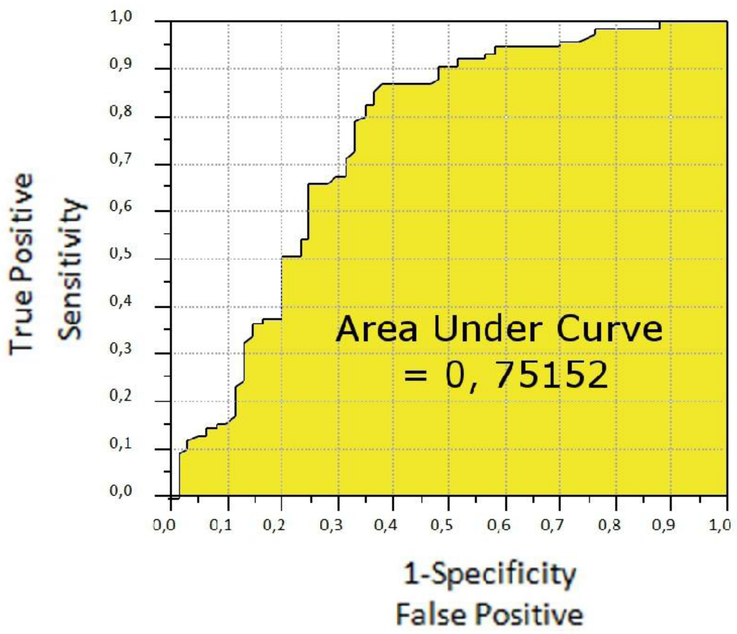


Figure 2: Fat Body Mass (FBM)

At logistic regression analysis, LBM loss was directly related to age, male gender, serum transferrin and C-reactive protein, but not to dialysis modality (HD vs PD (χ^2=0.0004); the decrease of FBM was not related to any of these parameters.

Nutritional parameters measured with BCM, Lean Tissue Index (LTI) (Kg/m^2) for LBM and Fat Tissue Index (FTI) (Kg/m^2) for FBM, were not predictive of LBM and FBM losses: the area under the ROC curve (AUC) was of 0.64 and 0.75 for LBM and FBM reduction with LTI and FTI, respectively (Figure 3 and 4).





CONCLUSIONS

In dialysis patients malnutrition is quite common along FBM and LBM losses and it is not influenced by dialysis modality. New methods based on bioimpedance seem not to be a valid alternative to traditional anthropometric parameters in the evaluation of nutritional status in dialysis.

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M) Dialysis. M9) Protein-energy wasting, inflammation and oxidative stress in CKD 5D.
Lucia Del Vecchio
DOI: 10.3252/pso.eu.51era.2014
Poster presented at: 51 ERA-EDTA CONGRESS AMSTERDAM 2014
PosterSessionOnline.com