DIALYSIS. PROTEIN-ENERGY WASTING, INFLAMMATION AND OXIDATIVE STRESS

FP802 CORRELATION OF BIOELECTRICAL IMPEDENCE ANALYSIS (BIA) AND CLINICAL ANTHROPOMETRY IN THE EVALUATION OF NUTRITION IN ADULTS ON CAPD

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Introduction and Aims: Protein energy malnutrition is highly prevalent in PD patients and is a strong risk factor for morbidity and mortality in these patients. The use of multi-frequency bioelectrical impedance analysis (BIA) to measure body composition and nutritional status and the relationship of BIA indexes to the various nutritional assessment methods have not been studied in much detail in CAPD patients in India.

AIM:
1. To find the correlation between various indices measured by BIA, Serological, subjective global assessment and anthropometry method. 2. Evaluation of Protein energy wasting by various methods.

Methods:
189 CAPD patients (M = 84, F=105; mean age 57.6 years ± 11.6 years) were Assessed for their nutritional status after minimum 3 months of CAPD initiation. Nutritional status was assessed by dietary diary,BIA (lean tissue index, fat tissue index, phase angle, reactance, resistance, extracellular water)anthropometry (weight,BMLMACTST, MAMC, MAMA), subjective global assessment, and serum albumin,S.pre-albumin,S.transferin,S.cholesterol, HsCRP. The patients were categorized into different grades of malnutrition, (1) normal nutritional status, (2) mild-moderate malnutrition, and (3) severe malnutrition based on SGA(ratings 6-7:3-5:1-2) and phase angle(>5:5-4:<4) respectively . Correlation between various indices measured by BIA and various other nutritional assessment methods were analyzed statistically.

Results: Mean age of the patients was 57.6 years ± 11.6 years. The average calorie and protein intake / Kg/ day were 25.5±4.6 Kcal and 0.81±0.2 gm respectively. The mean and standard deviation of BMI(23.7±5),MAC(26.3±4.5)Cm,TST(1.62±0.4)Cm, MAMC(25.6±4.5),cMAMA(45.7±19.7), were respectively .The mean values of S. protein, S.Albumin S.Pre-albumin, S.Tranferrin, S.Cholesterol, hs-CRP and IL-6 were 5.9 gm/dl, 3.0 gm/dl, and 21.11 mg/dl, 130.6 mg/dl, 155.9 mg/dl, 136.1 mg/dl, and 8.8±7.6 mg/l and 8.4±12.2 pg/dl respectively. Based on SGA, 17.4%; 54%; 28.6% ; S.albumin 21%,62%,17% : BMI 52%; 37%; 11% of CAPD patients had normal, moderate, severe malnutrition status respectively. 76.1% and 9.5% of CAPD patients were malnourished based on LTI and FTI respectively.LTI correlates significantly with Kcal/kg/day food intake, mid arm circumference, mid arm muscle circumference and pre-albumin.FTI correlates significantly with body mass index,mid arm circumference, tricipital skin fold thickness, mid arm muscle circumference, mid arm muscle area, S. Albumin and S.cholesterol. Phase angle co-relates (significantly) with S. albumin, S.bicarbonate and S.Cholesterol, BMI, MAC, TST, MAMC, c MAMA and adequacy of dialysis.

Conclusions: Majority of CAPD patients were malnourished (80%).BIA is a quick, inexpensive, noninvasive method and has shown great potential for use in estimating body composition and nutritional status in CAPD patients and BIA indices shown significant correlation with various other nutritional assessment method indices.

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