

SP663

**LEAN TISSUE INDEX MEASURED WITH BIOIMPEDANCE (BIA) AND STRENGTH AND PHYSICAL PERFORMANCE TESTS ASSOCIATED WITH SARCOPENIA IN A HEMODIALYSIS POPULATION**

Cesar Garcia-Canton<sup>3,2</sup>, Ana Rodenas-Galvez<sup>2</sup>, Celia Lopez-Aperador<sup>2</sup>, Yaiza Rivero<sup>2</sup>, Tania Monzon<sup>1</sup>, Gloria Anton<sup>1</sup>, Mar Lago<sup>2</sup>, Ana Ramirez<sup>2</sup>, Rita Guerra<sup>2</sup>, Agustin Toledo<sup>2</sup>

<sup>1</sup>Hemodialysis, Avericum, Las Palmas de Gran Canaria, Spain, <sup>2</sup>Nephrology, Hospital Universitario Insular de Gran Canaria, Las Palmas de Gran Canaria, Spain and <sup>3</sup>Nephrology, Universidad de Las Palmas de Gran Canaria, Las Palmas de Gran Canaria, Spain

**INTRODUCTION AND AIMS:** Sarcopenia, loss of muscle mass, is one of the components of the protein energy wasting (PEW) and frailty often associated with chronic kidney disease. The European Working Group on Sarcopenia in Older People (EWGSOP) proposed a definition of sarcopenia based on three criteria: low muscle strength, low physical performance and documentation of low muscle mass. The Body Composition Monitor (BCM Fresenius) is an apparatus, which can analyze the body composition through multifrequency bioimpedance spectroscopy and yields a lean tissue index (LTI) and a fat tissue index (FTI) expressed in Kg/m<sup>2</sup>. Both indexes have been validated using DEXA as the reference method. Normal values, adjusted by age and sex, have been described for the normal population. Some studies on chronic kidney disease consider anomalous values those below percentile 10 of the normal population. Other studies evaluate patients' clinical evolution according to whether their indexes are higher or lower than the median value of the involved population.

**METHODS:** Our objective was to study, in a prevalent hemodialysis population, the relationship of the BCM-assessed body composition, and especially LTI with standardized tests, which measure muscle strength through a dynamometer (DS) and physical performance through the walking speed test (WS) and the standing-and-walking speed test (SWS). Results were classified as pathological or normal according to standard results published for these tests. The study included 242 patients; their median age was 64 years, 63.6% of them were men; 55% of them suffered from diabetes; the mean time in dialysis was 49.4 months.

**RESULTS:** When the population was split into low LTI or normal LTI groups, according to the "normal population's percentile 10 criterion", 60.7% of patients presented low LTI (group A) and 39.3% normal LTI (group B). The percentages of patients with pathological results, group A vs. group B, in the different tests were: DS 77.6 vs 65.3 p<0.05; WS 42.9 vs 43.2 (n.s.); SWS 57.5 vs. 53.7 (n.s.). When the population was classified according to the "median-LTI in our population criterion" (group A LTI≤11.6; group B LTI>11.6), the percentages of patients with pathological results, group A vs. group B, in the different tests were: DS 85 vs 60.7 p<0.001; WS 54.2 vs 32 p<0.001; SWS 71.4 vs. 41 p<0.001. However, when the median LTI was calculated independently for each sex and age quartiles, statistical significance was lost, except for SWS: DS 77.6 vs. 67.5 (n.s.); WS 47.2 vs. 38.5 (n.s.); SWS 62.9 vs. 48.7 p<0.05.

**CONCLUSIONS:** No clear association can be concluded, in the studied dialysis population, between low lean tissue index measured with BCM and pathological results in the used sarcopenia tests for low muscle strength and low physical performance. Further studies are needed to assess the utility of BCM in the evaluation of sarcopenia-associated muscle strength decrease. This study was financed in part with a COMLP grant.