KSN 2020
FULLY VIRTUAL MEETING

Abstract Type : Poster
Abstract Submission No. : PO-1062

Relationship between ability for balance and lower muscle mass of Hemodialysis patients

Yoko Onuma, Tadayosi Minamizawa
Department of Rehabilitation, Yabuki Hospital, Japan

Objectives:

A deteriorating physical function are increasingly recognized as key characteristics of chronic kidney disease (CKD) patients. This study investigated the relationship between balance ability and lower limb muscle strength in CKD patients.

Methods: 146 CKD subjects (53 males, 24 females, age; 68±10 years) were in this study. The measurement were knee extension muscle strength and one leg standing time. Maximum isometric strength of the knee extensors was assessed using a dynamometer. In addition, referring to the single leg standing time, knee extension muscle strength were set as a group capable of standing one leg for 120 seconds (High group), a group less than 5 seconds (Low group), and a 5~120 seconds group (Middle group). Correlation analysis is performed to identify the strength of relationships between a pair of variables. A one-way analysis of variance was used to test for differences muscle strength in each group.

Results:

The correlation coefficient between muscle strength and single leg standing time in all subjects was r=0.60. 17 subjects were able to stand for 120 seconds on one leg (mean muscle strength value: 2.1 Nm/kg). In addition, 96 subjects with one leg standing time of 5 seconds or more and less than 120 seconds had a correlation coefficient of r = 0.53 ($p < 0.05$) (mean muscle strength value: 1.61 Nm/kg). There were 33 subjects with one leg standing time of less than 5 second, and the correlation coefficient with the muscle strength value (mean: 1.27 Nm/kg) was r = 0.32. One-way analysis of variance showed significant differences in muscle strength values for each group.

Conclusions: The relationship between the standing time of one leg and muscle strength in outpatient dialysis patients revealed that the balance ability of subjects with lower limb muscle strength decreased.