SARCOPENIA IN STROKE: ROLE OF MUSCLE ULTRASOUND AND PROGNOSTIC IMPLICATIONS FOR FUNCTIONAL RECOVERY

A. Incao, G. Berto, A. Strukel, S. Nasi, P. Chioatto, M. Iannilli

Area Riabilitativa Casa di Cura Città di Rovigo.

Post-stroke sarcopenia compromises rehabilitation outcomes and worsens residual disability; ultrasound study is a potential gold standard for muscle assessment. The aim of this study is to evaluate sarcopenia in patients with subacute stroke and analyze its impact on functional recovery. This is a prospective, observational study on 16 patients with subacute stroke. Assessments were performed at admission and discharge, collecting data on nutritional status, sarcopenia risk (MUST, SARC-F), handgrip strength test, Timed Up and Go (TUG), sit-stand test, Barthel index, and FAC. Ultrasound assessments of various muscles were performed on both healthy and hemiplegic limbs. The results were compared with a control group (simple linear regression and backward stepwise multiple regression). Stroke patients showed significantly reduced muscle strength and worse performance on motor tests; the difference diminished upon discharge. Comparison between healthy and affected limbs revealed a general tendency toward muscle atrophy also in the contralateral limb, suggesting a systemic component of post-stroke sarcopenia. Simple linear regression showed a statistically significant negative correlation between MUST and SARC-F at time T0 and between FAC and Barthel index at time T1, indicating worse recovery in ADL and ambulation in patients at greater risk of malnutrition and sarcopenia. By regression analysis, lower muscle tissue quality in the affected limb is a negative predictor of functional outcome, whereas better preserved morphology in the healthy limb is positively correlated with recovery. The study highlights that early identification and treatment of post-stroke sarcopenia, supported by nutritional screening and ultrasound assessment, are key strategies for optimizing functional recovery in stroke survivors. Due to the small sample size, the findings require confirmation in larger studies to consolidate their clinical value and guide targeted interventions.