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Commentary

Commentary to: Body Composition Alterations in Patients with Chronic Stroke: A Cross-Sectional Study

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To the Editor:

I read with great interest the article by Saengsuwan et al., "Body Composition Alterations in Patients with Chronic Stroke: A Cross-Sectional Study," published in the Journal of Musculoskeletal and Neuronal Interactions (JMNI)[1]. This study makes a valuable contribution by quantifying side-to-side differences in lean body mass (LBM), fat mass, and bone mineral content (BMC) using DXA in 84 individuals with chronic stroke, and by identifying predictors of paretic LBM and BMC. Importantly, the reported -16.8% reduction in upper limb BMC and -7.9% reduction in lower limb LBM underscore the magnitude of long-term musculoskeletal asymmetry after stroke and reinforce the clinical relevance of targeted rehabilitation.

However, several aspects of interpretation warrant clarification. First, the reliance on side-to-side comparisons may risk underestimating the overall burden of musculoskeletal loss. Prior literature indicates that non-paretic limbs also undergo atrophy and compositional change due to reduced global activity. Thus, the observed percentage differences may reflect relative asymmetry rather than absolute preservation on the non-paretic side. Readers should therefore interpret the findings as indicators of asymmetry rather than as direct estimates of total post-stroke loss.

Second, the identification of body fat percentage as a negative predictor of paretic LBM is clinically meaningful, but its mechanistic interpretation remains uncertain in a cross-sectional framework. Because DXA cannot quantify intramuscular fat infiltration, reduced LBM may partially represent qualitative muscle deterioration. Without muscle quality metrics, the association between adiposity and lean mass should be interpreted cautiously.

Several feasible next steps could strengthen the evidence base. Using the existing dataset, the authors could (1) model absolute appendicular skeletal muscle mass relative to established sarcopenia thresholds, (2) perform sensitivity analyses stratified by ambulatory status (FAC 4–5 vs. lower), and (3) explore interaction terms between motor strength and adiposity to clarify whether obesity modifies the strength–muscle relationship. Prospectively, longitudinal designs incorporating repeated DXA and functional measures would help distinguish predictors from true causal determinants. Where feasible, adjunct imaging (e.g., CT-based muscle attenuation) could better characterize muscle quality.

Overall, this study advances understanding of chronic stroke–related musculoskeletal asymmetry. Clarifying the interpretive framework and extending the analytic approach would further enhance its clinical and methodological impact.

Author Contributions

Jiayi Chen contributed to all aspects of the work and approved the final version of the manuscript.

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Reference

1. Saengsuwan J, Nimphan C, Somboonporn C, Arrayawichanon P. Body Composition Alterations in Patients with Chronic Stroke: A Cross-Sectional Study. J Musculoskelet Neuronal Interact. 2025 Dec 1;25(4):449-455.

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