https://doi.org/10.29289/259453942025V35S1098

Effect of resistance training on the phase angle of breast cancer patients during neoadjuvant chemotherapy: a pilot study

Nathan Muci Aguiar Damasio[1], Rafael Ribeiro Alves[1], Anderson Garcia Silva[1], Vitor Andrade Maciel[1], Tatiane Nunes da Silva Rodarte[1], Ellen Gomes de Oliveira[1], Vitor Alves Marques[1], Carlos Alexandre Vieira[1]

[1] Universidade Federal de Goiás – Goiânia (GO), Brazil.

Objective: This pilot study aimed to evaluate the impact of resistance training (RT) on phase angle (PhA) in breast cancer patients undergoing neoadjuvant chemotherapy. **Methods:** Five women with breast cancer (stages I–III) were recruited before chemotherapy and randomized into RT (n=3) and control (CON, n=2) groups. The RT protocol lasted 12 weeks, with weekly sessions including 3–4 sets of 10–16 repetitions of exercises targeting major muscle groups, such as leg press, bench press, stiff-leg deadlift, and lat pulldown. PhA was assessed via bioelectrical impedance analysis at baseline and post-intervention. Statistical analysis was performed using the IBM Statistical Package for Social Sciences (SPSS; v. 25.0) and Jamovi (v. 2.3.28.0). The Shapiro-Wilk test assessed data normality. Group comparisons were conducted using an independent t-test, and PhA variations over time were analyzed with a two-way analysis of variance ANOVA (2×2). The study was approved by the ethics committee of the Federal University of Goiás. **Results:** No statistically significant PhA differences were found between RT and CON (p=0.241). Baseline values were 6.37 standard deviation ±0.50 (RT) and 6.3±0.28 (CON), while post-intervention values were 6.37±0.40 (RT) and 5.85±0.35 (CON). **Conclusion:** RT did not significantly impact PhA during neoadjuvant chemotherapy. However, considering the prognostic value of PhA, future studies should explore larger samples, longer interventions, and different training protocols.

Keywords: neoplasms; resistance training; body composition; therapeutics.