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IN THE HELMHOLTZ ASSOCIATION

Contribution ID: **317** Type: **1 - Scientific Poster**

Resistance training is a safe, feasible and highly beneficial exercise intervention in a breast cancer survivor with liver metastasis, osteopenia and subjected to unilateral mastectomy

Wednesday 22 July 2026 12:55 (20 minutes)

Introduction
Exercise-induced benefits in cancer patients have been consistently observed in exercise oncology research but precise manipulation of training variables (e.g., volume, intensity, frequency) is key to optimize clinically relevant patient-reported outcomes among breast cancer survivors (BCS). Evidence indicates that resistance training (RT) is safe, feasible, ameliorates lymphedema symptoms, improves muscle strength, bone health and body composition.
Case Report
A 51-year-old overweight BCS presented at The Strength Clinic in September 2023 for an exercise consultation. Walking and dancing were her main exercise activities. She had been diagnosed with breast cancer (left breast, G3, RE 85%, RP 5-10%, HER 2+ (3+) and Ki67 30%) and liver metastasis in May 2023. She was treated with neoadjuvant chemotherapy, hormone therapy, radiotherapy, ovarian removal surgery for hormonal control, an aromatase inhibitor (letrozole), unilateral mastectomy with axillary clearance and right hepatectomy surgery. Osteopenia was detected after her treatments. A TSC functional evaluation revealed good body awareness but with low levels of stability, general strength and occasional low back pain. An InBody770 analysis revealed high body fat, high visceral fat and above average systemic inflammation. The patient started progressive RT of two weekly private sessions and progressive integration into our small group training system. After two years, despite all challenges, improvements were made in: body fat and visceral fat; muscle mass; overall strength; bone mineral content and whole-body phase angle (an indicator of cellular integrity and longevity in cancer patients). No signs or symptoms of lymphedema were observed. She also reported improvements in quality of life and overall wellbeing.
Conclusion
A progressive RT intervention is safe, feasible and highly beneficial in a BCS with liver metastasis and osteopenia subjected to several medical interventions. Improvements were made in body fat, visceral fat, muscle mass, strength, bone health, phase angle, quality of life and overall wellbeing.

Keywords

Resistance training, Breast Cancer, Metastasis, Mastectomy.

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

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Session Classification: Poster Session