A longitudinal assessment to evaluate the impact of higher body mass index on cancer-related fatigue in breast cancer patients receiving chemotherapy

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OBESITY AND WEIGHT GAIN POST-CHEMOTHERAPY LEAD TO INCREASES IN ALL-CAUSE MORTALITY, INFLAMMATION, AND DECREASED QUALITY OF LIFE

- Obesity is more prevalent in breast cancer patients.
- Breast cancer survivors often experience weight gain post-chemotherapy
- Pro-inflammatory cytokines are potential factors in cancer-related fatigue (CRF)

Objective: To evaluate the impact of obesity on CRF in breast cancer patients through a secondary analysis of a prospective study

Methods: 565 Female breast cancer patients (aged 53 $\pm$ 10.61) completed multidimensional fatigue symptom inventory (MFSI) + symptom inventory (SI) to measure CRF symptoms baseline pre-chemotherapy (T1), post-chemotherapy (T2) and six months post-chemotherapy (T3). Subjects were categorized based BMI at T1: Obese (OB: ≥ 30.0 kg/m²; n=294), overweight (OV: 25.0-29.9 kg/m²; n=146) and normal weight (NW: 18.5-24.9 kg/m²; n=125). Multivariate regression models evaluated obesity level on fatigue controlling for age, race, radiation history, hormonal therapy, cancer stage, exercise level & KPS score.

Results: T1 obese had higher CRF symptoms than normal weight subjects for MFSI Total (OB = 11.4 vs NW = 8.1; p=0.03) + SI (OB = 3.5 vs NW = 2.9; p=0.02). Higher SI fatigue scores persisted at T2 for obese (OB = 4.4 vs NW = 3.8; p=0.02). Over the course of the study, obese subjects maintained higher MFSI scores for General, Mental + Emotional subscales (p<0.05).

Conclusion: Obese breast cancer patients may suffer increased fatigue. Weight loss interventions should be considered to address fatigue in obese breast cancer patients.

MFSI Total Six Months Post-Chemotherapy

SI Fatigue Six Months Post-Chemotherapy