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Title

BMI and Waist Circumference in Patients with Multiple Myeloma

Priority 1 (Research Category)

Obesity, exercise and nutrition

Presenters

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Abstract

Context: Cancer is associated with many risk factors, including obesity. Specifically, abdominal obesity is linked to metabolic syndrome and is quantified by waist circumference (WC). Compared to WC, body mass index (BMI) is more accessible in the office to assess a patient's overall body fat composition. With preexisting computed tomography (CT) scans in multiple myeloma (MM) patients, WC can be obtained quickly and accurately as a potential prognostic biomarker.

Objective: To determine if there is a correlation between BMI and WC in MM patients.

Study Design and Analysis: This is a retrospective cohort study using preexisting CT scans of MM patients. Demographic information including age, sex, race, and BMI was gathered. The WC was obtained using Aquarius iNtuition software version 4.4.12. To standardize the CT scan measurements, slices were taken at the L3 vertebra with both transverse processes visible.

Setting/Dataset: An academic midwestern healthcare system.

Population Studied: A cohort of MM patients with CT scans.

Intervention/Instrument: The scans were analyzed with Aquarius iNtuition.

Outcome Measures: Average BMI and WC, as well as the correlation between BMI and WC.

Results: This study includes 71 MM patients (37 women and 34 men) who had a whole-body low-dose CT scan. The average BMI was in the overweight range for both women and men at 28.7 and 28.8, respectively. Notably, the average WC was 39.4 inches for women and 41.9 inches in men, meeting one of the criteria for metabolic syndrome (>35 inches in women and >40 inches in men). BMI and WC were significantly correlated in both men and women ($p < 0.001$).

Conclusions: This is a retrospective analysis of BMI and WC in a cohort of MM patients. Traditionally, BMI has been used to quickly assess the body fat composition of patients. However, WC is a more accurate and readily accessible tool in patients with a CT scan. This measurement is strongly tied to metabolic syndrome and is part of the diagnostic criteria. We found that BMI and WC were significantly correlated in this cohort. Further follow-up is needed with a larger sample size and over a longer period. As body composition in this cohort has not been previously studied, further analyses may provide more biomarkers to aid in disease management.