

## AB101. Body composition among patients with soft tissue sarcoma—association with clinicopathologic characteristics, complications and oncologic outcome: a systematic review

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**Background:** This aim of this study was to critically evaluate the current evidence-based literature regarding body composition among patients with soft tissue sarcoma (STS) as it relates to clinical and pathologic outcomes and treatment-associated morbidity

**Methods:** A literature search of the PubMed database using the keywords “sarcoma”, “sarcopenia”, “body composition”, “muscle mass”, “body mass index”, “frailty”, “obesity” and “visceral obesity” was performed. Nineteen studies including 5,490 patients were included, classified as level 3b or 4 evidence. Significant variability was present with

regards to study design and method of body composition measurement, including body mass index (13 studies), computed tomography imaging (3 studies), positron emission tomography-computed tomography (PET-CT) muscle avidity (1 study), modified frailty index (1 study) and anthropometry (1 study).

**Results:** Four studies found that obesity was not a predictor of overall survival, while one study demonstrated increased recurrence among patients with increased subcutaneous fat. Eleven of thirteen studies found obesity to be associated with complications following surgical treatment of soft tissue sarcoma. Lower psoas muscle attenuation was associated with increased risk of tumour recurrence. Increasing frailty scores were associated with increased risk of postoperative morbidity and reduced overall survival.

**Conclusions:** There is a poor evidence base investigating the relationship between body composition and clinicopathologic characteristics, treatment-associated morbidity and oncologic outcomes for patients with STS. Heterogeneity in measurement and reporting of body composition represents a significant challenge. Further studies utilising standardised definitions and comprehensive metabolic assessment are required to delineate the impact of obesity and sarcopenia among patients with STS.

**Keywords:** Body composition; sarcoma; sarcopenia

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