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Association Between Tumor Localization, Body Mass Index, and Clinical Presentation: About 151 patients

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Abstract

Background

Body mass index (BMI) has been widely investigated as a potential factor influencing cancer characteristics and clinical presentation. This study aimed to evaluate the association between tumor localization, BMI, and presenting complaints in cancer patients.

Methods

A retrospective study was conducted including 151 patients with histologically confirmed cancers treated at the department of medical oncology of Habib Bourguiba Hospital in Sfax. Collected variables included age, weight, height, BMI, tumor localization, and presenting complaints. BMI was categorized as underweight (<18.5), normal (18.5–24.9), overweight (25–29.9), and obese (≥30). Quantitative variables were expressed as mean ± standard deviation, and qualitative variables as percentages. Associations between categorical variables were assessed using the Chi-square test, with a significance threshold set at $p < 0.05$.

Results

The mean age was 57.1 ± 12.5 years (range: 19–82). The mean weight was 63.7 ± 13.8 kg, and the

mean height was 1.63 ± 0.09 m. BMI distribution was: normal weight (45.0%), overweight (25.2%), obese (14.6%), and underweight (15.2%). The most frequent tumor localizations were gynecological (41.7%) and digestive (31.8%). Obesity was present in ENT cancers in 36.4% and underweight prevalence was predominant in pulmonary cancers (42.9%). No statistically significant association was found between BMI and tumor localization ($p = 0.62$). Analysis of presenting complaints revealed a heterogeneous distribution according to tumor site. Asthenia was the most frequent symptom in gynecological cancers (19%), whereas abdominal pain predominated in digestive cancers. 6% of patients were asymptomatic at diagnosis.

Conclusion

Symptom patterns appeared to be primarily driven by tumor site rather than anthropometric factors, underscoring the predominant role of disease-specific characteristics. These findings are consistent with several reports in the literature suggesting that, although BMI may influence cancer risk, its impact on tumor presentation and localization remains limited.

