Oncology 2025
The Cancer Control Challenge:
Better Understanding It to Better Face It

GASTRIC CANCER AND INDICATORS ASSOCIATED WITH SARCOPENIA IN BRAZIL: EPIDEMIOLOGICAL STUDY USING DATASUS, SIVEP, AND SIM DATA (2015–2022)

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Introduction: Sarcopenia is a condition characterized by the progressive loss of skeletal muscle mass and strength. It is frequently underdiagnosed in cancer patients, especially those with gastrointestinal tumors such as gastric cancer. Sarcopenia is associated with increased mortality, longer hospital stays, and higher complication rates during oncologic treatment. Although sarcopenia itself is not yet directly recorded in Brazilian health information systems, related clinical indicators—such as malnutrition (ICD-10: E40–E46), abnormal weight loss (R63.4), cachexia (R64), and muscle disorders (M62.8) can serve as proxies for population-based studies. This study investigates the association between gastric cancer and these surrogate indicators using publicly available secondary data. **Objective:** To analyze the occurrence of conditions associated with sarcopenia in patients diagnosed with gastric cancer in Brazil, with a focus on the Northern region, using DATASUS, SIVEP, and SIM databases between 2015 and 2022. **Methods:** This is a retrospective, observational epidemiological study based on secondary data from the DATASUS, SIVEP, and SIM public databases covering the years 2015 to 2022. All hospital admissions with a primary diagnosis of malignant neoplasm of the stomach (ICD10: C16) were included. Co-diagnoses used as indicators of sarcopenia included malnutrition (E40–E46), abnormal weight loss (R63.4), cachexia (R64), and muscle disorders (M62.8). Data were stratified by geographic region, sex, age group, length of hospital stay, and clinical outcome (discharge, death, or transfer). Mortality records from the SIM system were also analyzed to assess deaths from gastric cancer with or without these co-diagnoses. Descriptive statistics were used to calculate absolute and relative frequencies,and temporal trends were analyzed using simple linear regression. Special attention was given to the Northern region due to its nutritional vulnerability and scarcity of localized studies. **Results:** Between 2015 and 2022, there were 56,243 hospitalizations for gastric cancer in Brazil. Of these, 17,004 (30.2%) included a

codiagnosis of malnutrition, 4,761 (8.5%) had abnormal weight loss, and 2,191 (3.9%) had cachexia. These sarcopenia-related indicators were more frequent in the Northern region, where 35.8% of gastric cancer hospitalizations recorded malnutrition, exceeding the national average. In-hospital mortality among patients with gastric cancer and either malnutrition or cachexia was 38.7%, compared to 21.5% in those without such conditions. A notable increase in the coding of malnutrition in gastric cancer cases was observed after 2020, possibly reflecting improved nutritional surveillance. Mortality data from SIM confirmed that the coexistence of gastric cancer and sarcopenia-related indicators was linked to higher lethality, especially in older adults and those with multiple comorbidities. **Conclusion:** Secondary data analysis reveals that conditions associated with sarcopenia are prevalent in gastric cancer patients and are linked to worse clinical outcomes, particularly in the Northern region of Brazil. Strengthening nutritional surveillance and implementing targeted screening protocols for sarcopenia should be prioritized in national oncology care strategies.

Keywords: Sarcopenia; gastric cancer; nutritional epidemiology.