SMALL CELL GASTRIC CARCINOMA, A LIFE-THREATENING MALIGNANCY: A POPULATION-BASED CLINICAL OUTCOMES STUDY INVOLVING 207 PATIENTS FROM THE SURVEILLANCE, EPIDEMIOLOGY, AND END RESULT (SEER) DATABASE (1973-2010)

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Introduction

- Small cell gastric carcinoma (SCGC) is a highly aggressive tumor comprising <0.1% of total gastric cancers (GC).
- Most of data related to this rare entity is derived from minimal case studies.
- The current study aims to report the demographic and clinicopathologic characteristics of SCGC patients and compares it with the more frequently prevailed gastric adenocarcinoma (GA).

Method

- Data of 71,607 patients diagnosed with GC and 207 patients with SCGC were abstracted from the SEER database (1973-2010).
- The data were analyzed using Chi-square tests, t-tests, and cox-regression multivariate analysis.

Results

- Mean ages of SCGC and GA patients were (67.9±12 vs. 71±11 years, p=0.04). Both SCGC and GA were more common in males (63.7% and 65.5.0% (GA), p<0.001), and Caucasians (69.9% and 66.1% (GA), p<0.001). SCGC was more often undifferentiated (66.9% vs. 2.9%, p<0.001), had more lymph node positivity (59.6% vs. 55.9%, p=0.01), and presented more often with metastatic disease compared to GA (64.5% vs. 46.1%, p<0.001). The majority of SCGC patients were not treated at all (57.7%), and if treated, surgery was employed most often, followed by radiotherapy (23.2% and 16.5%). Mean survival time for SCGC was significantly lower than GA (1.00±1.78 years vs. 2.02±3.91 years, p=0.03), and SCGC had a significantly higher overall and cancer-specific mortality rate (92.8% vs. 90.5%, p<0.005).

Results (Contd.)

- Furthermore, mean survival years for SCGC patients treated with primary radiotherapy or a combination of surgery and radiotherapy were also significantly inferior to GA despite receiving equivalent therapy, p<0.001. Additionally, primary resection provided more benefits to most SCGC patients. Cox regression multivariate analysis found that tumor size > 2 cm (OR 2.2, CI=1.8-2.3), regional limitation (OR 2.9, CI=2.5-2.9) or distant disease (OR 1.9, CI=1.7-2.3), lymph node positivity (OR 1.6, CI=1.4-1.8), undifferentiated grade (OR 1.3, CI=1.1-1.4), Caucasian race (OR 2.0, CI=1.8-2.2), and male gender (OR 1.2, CI=1.1-1.3) as independently associated with increased mortality for GCSC, p<0.001. A survival advantage for SCGC was seen in patients treated with surgery alone (OR 0.4, CI=0.3-0.5) or surgery with the combination of radiotherapy (OR 0.22, CI=0.1-0.3), p<0.001 provided added advantages.

Conclusion

- SCGC is a rare gastric tumor presenting mostly in Caucasian males in their 7th decade of life. Compared to the GA, the SCGC presents with increasing tumor size, undifferentiated histological grade, more diffuse lymph node involvement, and higher metastasis grades. For SCGC, when therapy was used, the surgical resection with or without radiotherapy caused a greater survival benefit than similarly treated GA.