The Role of Carcino-embryonic Antigen Testing among Western Patients with Resected Gastric Cancer

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Introduction

- In Eastern oncologic centers, elevated carcino-embryonic antigen (CEA) has been found to be a harbinger of poor outcomes in the setting of resectable gastric cancer.
- The aim of the present study was to assess if an association between CEA and diminished survival exists in a sample of Western patients with resected gastric cancer.

Methods

- The 2003 – 2012 American College of Surgeons National Cancer Database was sampled to identify 511 patients with gastric cancer for which CEA was measured prior to treatment.
- Patients were stratified according to CEA status: elevated (per treating facility’s discretion) or normal.
- Univariate analyses were performed.
- Kaplan Meier and Cox Proportional Hazards Models were performed to determine survival outcomes between cohorts.

Results

- 511 patients with resected gastric cancer who had CEA measured were included:
  - 122 (23.9%) had ↑ CEA
  - 389 (76.1%) had a normal CEA
- In univariate analysis:
  - Patients with ↑ CEA were of more advanced American Joint Committee on Cancer (AJCC) clinical stage but demonstrated no statistically significant differences in AJCC pathologic stages.
  - No differences between cohorts with regard to positive or negative response to neoadjuvant chemotherapy.
- Kaplan Meier survival analysis showed worse unadjusted three-year survival among patients with elevated CEA.
- After adjusting for demographics, comorbidities, surgical- and tumor-related variables, elevated CEA was not found to be associated with worse overall survival relative to patients with normal CEA.

Conclusion

- While much of what is known regarding the biology, diagnostics, and therapeutics of gastric cancer arises from Eastern centers, differences between gastric cancer patients and biology in the East and West must not be underestimated.
- This study found that, unlike our Eastern counterparts, elevated CEA did not signify more aggressive tumor biology and, therefore, the need for more aggressive care.
- This may justify the lack of routine CEA testing in Western centers.

*No relevant financial relationships to disclose

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