Challenges with Demographic Disparities in Gastric Cancer Care and Survival: Spectral Rather than Black and White

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Gastric cancer, although not too common in the United States, remains among the most lethal malignancies despite recent progress in multimodality therapy (1). Among the reasons, late-stage diagnosis and challenges to the delivery of complex care are likely contributors. Drs. Stessin and Sherr are providing an article within this issue that seeks to determine some circumstances of delivering radiotherapy (RT) to patients with resected gastric adenocarcinoma and the resulting survival outcomes. In light of the positive impact of postoperative chemoradiotherapy (CRT) on postgastrectomy survival within the Intergroup trial INT-0116, published in 2001 (2), this undertaking is sensible and appropriately timed. The study identified disparities in the frequency of adjuvant RT since 2002, with a less frequent utilization in African Americans, and an associated lower overall survival rate. Socioeconomic parameters could equally be linked to less frequent RT usage and lower overall survival.

The authors provide important information that should lead us to more closely examine circumstances, mechanisms, and possible implications for the future organization of gastric cancer care. Their study was undoubtedly motivated by the assumption that RT provides a postgastrectomy survival benefit and thus should be administered as standard of care to patients after gastric cancer resection. This is reasonable based on the Intergroup trial results, but the circumstances of this trial need to be kept in mind: CRT planning and randomization after gastrectomy which effectively exclude patients with an insufficient postoperative recovery from being considered, margin-negative (R0) resection, an unacceptably high rate of inadequate lymph node dissection extent, and the potential for some significant RT-induced morbidity, all of which have been discussed before (3–6). Because much of the benefit to CRT in the Intergroup trial was linked to reduction of “regional” recurrences, which included peritoneal and hepatic metastases, it remains less clear whether the chemotherapeutic or the RT component provided the main benefit.

In light of these challenges, would a general conclusion that 45% adjuvant RT utilization is inadequate be permissible? This issue is further complicated by additional considerations. Although long-term follow-up of randomized controlled trials of extended lymphadenectomy has by now been linked to improved survival (7) or reduced cancer recurrence risks (8), we are still not sure to date whether RT can provide a meaningful benefit to those individuals who have undergone a proper extended (D2) lymphadenectomy at the time of gastrectomy. In the meantime, the survival benefit of perioperative combination chemotherapy over resection alone as observed in the MAGIC trial has created an alternate standard for multimodality therapy that did not include any RT (9). Certainly after this trial’s publication in 2006, “RT” can no longer be regarded the sole surrogate for proper use of adjuvant gastric cancer therapy.

Data within the (the Surveillance, Epidemiology, and End Results (SEER) program of the National Cancer Institute) database represent important population standards for therapy and survival but are limited because of incomplete representation of some important variables. Information on chemotherapy is not available in SEER; here, the authors provide a plausible correlate from CIRF (Cancer Information Reference File) data that “RT” for this indication indeed represents CRT in most instances. However, other potentially important variables linked to survival hazards remain unknown: these include aspects of patient comorbidity and performance status, the margin status, treatment circumstances (curative vs. palliative intent, or both, emergency vs. elective), hospital, or individual surgeon case volume, among others. For example, although we have learned that the survival impact of the number of lymph nodes removed has remained a strong statistical predictor of the gastric cancer survival hazards within the SEER data throughout different stage groups, we would not be able to determine the causative versus circumstantial nature of this observation with certainty (10, 11). It is similarly challenging to prove whether the actual “RT” delivered, or perhaps rather the ability to receive radiation, represents the main mechanism that associates with better survival after gastrectomy. The conditional survival analysis only of patients surviving at least 6 months is perhaps the most elegant way to generate support in favor of a treatment-related mechanism; “RT” in this sense incorporates the potential benefit of the systemic chemotherapy that is usually delivered concomitantly. Nevertheless, we have to be generally cautious in drawing conclusions from

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SEER data regarding mechanisms that affect survival outcomes. Stessin and Sherr provide some convincing evidence that ethnic and socioeconomic factors are associated with differential use of adjuvant therapy and with differences in survival. Although ethnicity has been identified as an important factor linked to differences in biological or oncologic gastric cancer outcomes (12, 13), now we need to realize that ethnicity also has to be regarded an identifier of divergent delivery of multidisciplinary care. What are the reasons? Does this phenomenon primarily reflect a problem with access to care, racial bias, cultural barriers to seek or accept treatment, economic or insurance-related limitations, or perhaps the physicians’ concerns over not being able to deliver CRT safely? Herein lies the main and noteworthy aspect of their article: the evidence that disparities in treatment and outcomes clearly exist, without being able to clearly delineate the mechanism. As it turns out, the measurable disparities are not just as black and white as they may seem: they are not just limited to one ethnic group but also remain evident within several social and economic categories. What can we therefore conclude from this spectrum of therapeutic and outcomes imbalances? We can easily agree that every gastric cancer patient deserves multidisciplinary therapy evaluation with treatment delivery within a sufficient specialty expertise. We could possibly argue why this goal is obviously not yet attainable for all who deserve it. We should, however, consider this an opportunity and a medical and societal obligation to identify and remedy the causes. One would furthermore hope that future developments in health care will be able to address these challenges in order to improve access and quality of appropriate cancer care, without limiting these for the sake of economic priorities.

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