GUEST EDITORIAL

Neoadjuvant Therapy for Locally Advanced Cancer

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In this edition of the Journal of Surgical Oncology Seminar series, we hoped to create a collection of review articles, detailing the current status of neoadjuvant strategies for the most common solid tumors. We thought that our readers would benefit from an up-to-date review of the topics, collected in a single publication.

Neoadjuvant therapy was initially designed to preoperatively treat locally advanced cancers with chemotherapy, but contemporary concepts have come to include chemo-, radiation, endocrine, and targeted therapies. In addition to impacting the options for surgical treatment, either by facilitating organ-preserving resection or by rendering a tumor resectable at all, neoadjuvant therapy has other potential benefits.

There are several consistent themes that run through each of the articles. First, all of the authors have described similar rationales for neoadjuvant therapy, which include five theoretical advantages: (1) provide earlier treatment of clinically occult metastatic disease that can result in distant failure and death despite “curative” resection; (2) determine sensitivity to treatment while the tumor remains in situ; (3) complete a full course of treatment, which is more likely to occur in the preoperative than in the postoperative setting; (4) identify a subset of patients with particularly aggressive disease who develop metastases while on neoadjuvant therapy (they are unlikely to benefit from resection and are spared radical surgical procedures); (5) decrease primary tumor volume (“downstage”) to improve resectability and result in a low incidence of margin-positive resections.

A second intercurrent theme throughout these commentaries is an attempt to evaluate whether response to neoadjuvant therapy affects survival rates. The authors have described a wide range of responses to preoperative treatment, including conversion of unresectable to resectable tumors or of organ-sacrificing to organ-preserving surgical procedures, and from incomplete to complete pathologic responses (pCR). The sensitivity of tumors to neoadjuvant therapy varies from exquisite in nasopharyngeal to very good in oral squamous cell to modest in pancreatic cancers. The thematic answer to the question of whether the response to neoadjuvant therapy affects survival rates is: the better the response to treatment, the better the outcome. However, it is the nuances from one tumor type to the next that makes this compilation of articles interesting to oncologists. For breast and esophageal cancers, a pCR is clearly associated with improved overall and disease-free survival rates. However, for rectal cancer, increased pCR rates have translated into decreased risk of local recurrence after definitive surgical excision but not into improved survival rates. For extremity soft tissue sarcomas, there appears to still be debate about whether extensive tumor necrosis is associated with improved long-term survival rates. And, despite the shortcomings of neoadjuvant therapy for gastric, pancreatic, and ovarian cancers, many researchers have noted that optimal cytoreduction has led to median survival rates that exceed traditionally recognized survival rates. These results will undoubtedly serve as the paradigm on which further clinical trials of neoadjuvant therapy will be based.

On behalf of the editors of Journal of Surgical Oncology, I would like to thank the contributors to this edition for their thoughtful responses to our request to create this collection of articles. We hope our readers will enjoy the breadth and depth of experience brought to us by an outstanding group of authors.

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