

A Deep Dive into the Diagnosis and Management of Regional Lymph Node Metastases



The evolution of cancer treatment has led to better local control for primary malignancies at many different anatomical sites, often with organ and function preservation and enhanced quality of life. Similarly, the advent of better systemic therapy, including immunotherapy, has led to exciting developments in managing distant metastases. Often forgotten in this continuum of care is the management of regional lymph nodes. We recognize that the successful assessment and management of lymph nodes is a vital component of care and contributes to overall survival and quality of life. The involvement of lymph nodes with regionally metastatic cancer is a common trigger to change management strategy, influence the extent of local therapy treatments such as surgery and radiation therapy, and increases the risk of future development of distant metastatic disease.

In this issue of Seminars of Radiation Oncology, we will focus on the current state and future directions in the evaluation and treatment of lymph nodes as we seek ways to improve staging and outcomes while decreasing morbidity and cost of therapy. The authors will review current paradigms in lymph node imaging, pathologic diagnostic aspects, and management techniques.

Wright and colleagues open the issue with an overview of positron emission tomography-computed tomography (PET-CT) imaging in diagnosis, staging, and management of head and neck cancer. This paper highlights the process of digital photon counting PET detector technology and its clinical applications to the assessment of nodal basins. Dutta and colleagues follow with an overview of the pathologic evaluation of lymph nodes and the implication of identifying micro metastatic disease in creating optimal treatment strategies for breast cancer. Continuing with diagnostic aspects, Oliver and colleagues present a nice overview of novel genomic strategies which can provide a roadmap to individualize lymph node management across multiple primary sites. These authors highlight the opportunity to develop “genetically informed” radiation strategies to optimize lymph node treatment.

The era of human papillomavirus as a biomarker has introduced new thinking into the approach toward oropharyngeal cancers, and this includes lymph node management. Tam et al present a nice overview of lymph node management for tonsil and tongue base cancers, highlighting opportunities for enhanced individualization of radiation therapy as well as de-intensification of overall therapy for appropriately low-risk patients. Later in the issue, Ladbury et al present a nice overview of anal cancer management, bringing together many of the current and similar ideas surrounding treatment de-intensification, integration of radiation and chemotherapy, and technical factors of radiation therapy, as applied to lymph node management in another human papillomavirus-associated malignancy.

Garden and colleagues shed light on lymph node management in the postoperative setting, using head and neck cancer as a model. In a parallel manner, Gerber et al review nodal management of breast cancer in the current and evolving multidisciplinary environment with a particularly thorough discussion of sentinel node lymphadenectomy, completion axillary lymphadenectomy, and decisions about radiation therapy treatment of axillary, supraclavicular, and internal mammary chain lymph nodes. Jurgenliemk-Schulz et al review nodal management in advanced cervix cancer and highlight important technical aspects of radiation therapy. This includes treatment planning guidelines and expected outcomes.

The issue ends with two reviews on skin cancer. Wutrick et al provide an important reminder that nodal management in melanoma patients remains important, even in the immunotherapy era. This review attempts to give a balanced discussion of the data showing the benefit of adjuvant radiation therapy and the controversy on how to apply the data in the setting of new systemic agents with demonstrated survival benefit in the adjuvant setting. Yom completes the issue with an overview of nodal radiation in nonmelanoma skin cancers, including squamous cell carcinoma and Merkel cell carcinoma.

We hope this issue provides a useful update as well as a glimpse into the future, on the timely topic of lymph node management.

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