HEAD AND NECK CANCER
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Squamous cell carcinoma of the head and neck affects more than 40,000 people each year in the U.S., and at least 13,000 people each year die of this disease. In many countries, oral cancers are one of the leading causes of cancer incidence, and a major cause of morbidity and mortality. Sadly, these statistics have not improved despite clear delineation of tobacco and alcohol as contributory or etiologic in at least 80% of cases.

Exciting advances are occurring in the understanding of the molecular pathogenesis of squamous head and neck cancers. This progress may allow for earlier detection using molecular markers in blood, saliva, or tissue. Molecular diagnostic tools to distinguish between second primary upper aerodigestive tract tumors and metastases may be routinely used clinically in the near future. Understanding the significance of molecular markers such as p53 mutations improves our ability to use these as both prognostic markers of outcome, and predictive markers of response to our therapies.

For early stage head and neck cancer, surgery and radiotherapy remain standard therapies, with cure achieved in 60-90% of such patients. Although there is still room for improvement in these numbers, a significant need for these patients is effective chemoprevention of second primary malignancies. These occur in the head and neck, lung, and esophagus at the rate of 5% per year in those who continue to smoke, and slightly less in those who have quit. Eagerly awaited data from large randomized trials of chemoprevention agents will emerge in the next few years, and preclinical and early clinical work promise further advances in the near future.

Locoregionally advanced head and neck cancer, the most common presentation, and metastatic head and neck cancer are both considered stage IV disease. This reflects the unique biology of HNC in which the majority of patients die of locoregional, not metastatic, disease. Traditional treatment with surgery and postoperative radiotherapy has led to cure in 30-35% of patients, and less in unresectable patients treated with radiotherapy alone. In the last decade, a clear role for chemotherapy has emerged in the
multimodality treatment of head and neck cancer. This has led to improved outcome in virtually all categories for which it has been used. Larynx preservation is demonstrated to be feasible for two-thirds or more of larynx and hypopharynx cancer patients treated with induction chemotherapy and radiation. Even higher rates of larynx preservation are possible with concomitant chemotherapy and radiation. Concomitant chemoradiation has clearly improved survival in unresectable HNC when compared to RT alone, and this modality continues to be studied in resectable HNC. In the postoperative setting chemoradiation shows promise for improving survival versus radiation alone. This approach can allow organ preservation while preserving or improving cure rates when used as a substitute for surgery. Advances in reconstruction for patients requiring extensive surgeries have allowed for improved cosmesis and function.

Despite our best efforts, any treatment for HNC has the potential to lead to anatomic, functional or cosmetic sequelae, and altered quality of life. Many efforts are currently underway to describe, quantify and compare these adverse outcomes in the various treatments used for HNC. Understanding and improving these outcomes is a fertile arena for ongoing investigation.

Notwithstanding all of the advances in the multidisciplinary treatment of head and neck cancer, we continue to hope that through primary prevention we can eliminate more head and neck cancer cases and deaths than we can with all of the diagnostic and therapeutic measures discussed in this book.
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