



Otolaryngology Head and Neck Oncology

Program leaders are Maisie Shindo, MD, director; Arnold Katz, MD, chair, Division of Otolaryngology; Prajoy Kadvade, MD; Kepal Patel, MD; Ghassan Samara, MD and Frances Tanzella, NP.

The comprehensive, multidisciplinary approach to management of head and neck cancer at Stony Brook University Hospital continues to provide patients with state-of-the-art care, resulting in an increased number of patients. The multidisciplinary team, consisting of head and neck surgeons as well as nurses, nurse practitioners in the Division of Otolaryngology Head and Neck Oncology, radiation oncologists, medical oncologists, pathologists, diagnostic neuro-radiologists, interventional neuroradiologists, speech pathologists and dentists, works to ensure that patients are provided with the best comprehensive treatment. Programs are dedicated to the comprehensive care of malignancies arising in the head and neck region. The spectrum of malignancies treated includes cancers of the aerodigestive tract, which includes oral cavity, pharynx, larynx, nasal cavity, nasopharynx and sinuses, the thyroid gland and the salivary glands.

There are two major goals in treating patients with head and neck cancer—controlling the disease and maintaining a good quality of life. Significant strides have been made in treatment modalities that have improved the quality of life for patients with head and neck cancer. Head and neck cancer is a very debilitating and emotionally distressing disease, as it can result in speech and swallowing impairment as well as facial disfigurement. Advances in radiation therapy techniques, such as modifying the dosing schedule, sophisticated computerized planning of x-ray beam delivery and direct implantation of radiation seeds known as brachytherapy, have improved overall initial control of the cancer in the head and neck region. The local and regional control rates can be improved by combining radiation with chemotherapy, especially by using newer drugs and improved delivery techniques. Thus, preservation of

structures that are important for communication, such as the voice box, is now possible in a large percentage of patients.

The current trend today is to treat early stage disease with single modality—surgery, radiation or laser, depending on the site of the primary tumor. For example, Stage I and II laryngeal cancers are effectively treated with endoscopic laser excision with excellent local control rates. The advantage of this is shorter length of stay and good functional outcome. Stage III and IV cancers of the larynx, oropharynx and hypopharynx are generally treated with chemotherapy and radiation therapy, with surgery reserved for failure. Very high complete response rates can be achieved when radiation therapy is delivered concurrently with chemotherapy; however, this method of concurrent chemo-radiation treatment can result in very disabling side effects, such as severe mucositis which can result in permanent xerostomia and dysphagia. Surgical resection is still the preferred initial treatment modality for oral cavity cancer of all stages.

While current treatment modalities have improved locoregional control rates for head and neck cancer, the overall long-term survival rate for squamous-cell cancers of the aerodigestive tract still has not improved dramatically over the last decade. Overall, approximately 50 percent of these patients will ultimately develop recurrence at the primary site, in lymph nodes or at a distant site, such as the lungs.

Members of the Division of Otolaryngology Head and Neck Oncology, in conjunction with medical oncologists and molecular biologists, are collaborating on translational research to shed further light on the behavior of head and neck cancers

and to develop improved treatment modalities, such as gene therapy and immunotherapy to improve overall survival rates. Ghassan Samara, MD and Kepal Patel, MD are currently involved in studying the behavior of tumor cells at a molecular level.

Another significant advance in the treatment of head and neck cancer is in reconstruction of surgical defects after cancer removal. A team of highly specialized surgeons with training in plastic and reconstructive surgery of the face is able to reconstruct extensive head and neck defects by transferring tissue from other parts of the body to

replace the missing tissues at the surgical defect. In this way, both function and esthetics are restored for patients. Somewhat similar to the principles of tissue transplants, this highly sophisticated surgical technique, known as microvascular-free tissue transfer, requires sewing of blood vessels and nerves to re-establish blood flow, sensation and motor function at the site of the reconstruction. By reconstructing the defects with tissues of similar composition (e.g., bone, soft tissue), speech, swallowing and masticatory function, as well as facial esthetics can be restored, thus significantly improving the patient's quality of life.

Dr. Shindo and Frances Tanzella, NP, during a patient examination





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**2005
ANNUAL
REPORT**