Clinical Practice Guidelines for Malignancies of the Head and Neck: Larynx, Oropharynx, and Oral Cavity

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Introduction

The following guidelines represent the current management at our center for the majority of patients presenting with cancer of the larynx, the oropharynx, or the oral cavity. These guidelines, which are applicable to at least 60% of our patients, show the usual sequence of events that occurs in the evaluation and treatment of these specific diseases. Many patients are eligible for participation in clinical trials to evaluate novel approaches. The number and type of clinical trials available vary.

The treatment of cancer of the head and neck is individually planned, since no two patients will present with the same tumor size, subsite involvement, and nodal involvement. Preexisting medical conditions and social circumstances may affect the recommended modality as the initial treatment.

Evaluation and Staging

Additional radiologic and laboratory tests for preoperative evaluation and screening for metastatic disease may be required. Biopsy for confirmation of the diagnosis is necessary. Disciplines that may be involved in patient care include otolaryngology (head and neck surgery), radiation oncology, speech pathology, dental oncology, psychosocial medicine, medical oncology, internal medicine, and/or nutrition service. When the necessary data are obtained and the appropriate consultations have occurred, the case is presented at the Multidisciplinary Head and Neck Tumor Conference to determine the clinical staging of the malignancy.[1] While clinical staging is limited in the ability to define optimal treatment and prognosis for individuals, it provides a framework on which to base treatment options.

Larynx

Treatment of cancer of the larynx depends primarily on the extent of the primary tumor. Although some centers treat most early laryngeal cancers (T1 and T2) with surgery (cordectomy, partial laryngectomy, etc.),[2] we generally recommend that these patients undergo radiation therapy since the superiority of either approach in tumor control or survival has not been demonstrated.[3] Patients who undergo primary radiation therapy for these early lesions achieve better posttreatment voice quality than those undergoing surgical excision.[4] Surgery for early malignancies is usually reserved for patients who either fail to achieve a complete response to radiation therapy or develop recurrent disease following radiation.[5]

Treatment options for stage III and IV patients include surgery plus postoperative radiation and induction chemotherapy followed by radiation.[6] We offer these treatment options to patients with T3 laryngeal tumors (vocal cord fixation and/or invasion of the postcricoid area, medial wall of the pyriform sinus, or preepiglottic tissues) if coexisting medical problems do not preclude administration of chemotherapy. Most elect chemotherapy and radiation to preserve their natural voice.

Management of T4 tumors of the larynx (cartilage invasion or extralaryngeal extension) is more difficult. A larger percentage of patients with T4 tumors require eventual laryngectomy following chemotherapy and radiation as compared to earlier-stage tumors, and surgery is likely to be more complicated in these patients. Therefore, we generally recommend total laryngectomy and postoperative radiation therapy.

Oropharynx

Patients presenting with early-stage (T1 or T2) oropharyngeal malignancy are treated by surgery or radiation therapy. The decision is based on the subsite(s) involved, the histology of the malignancy, the preference of the treating physician, and the wishes of the patient. Patients who undergo primary radiation therapy and fail to achieve a complete response will then undergo surgical excision. For patients undergoing surgery as primary therapy, a simultaneous neck dissection may be performed based on the preoperative staging of the neck and the degree of risk for occult nodal disease. The decision to follow surgery with postoperative radiation therapy is based on results of the final pathology including the adequacy of surgical margins and the pathologic staging of the neck.[7,8]

Generally, advanced malignancies of the oropharynx are treated by surgical excision, reconstruction, and postoperative radiation therapy, although selected tumors may be treated with radiation as the primary modality.[9,10] T3 lesions are defined as more than 4 cm in greatest dimension but not involving adjacent structures. T4 lesions are those invading adjacent structures such as cortical bone, soft tissue of the neck, or extrinsic muscle of the tongue. Most defects created by excision of these tumors require reconstruction with a musculocutaneous flap or a microvascular free-tissue transfer (free flap). Advanced lesions that have extended to involve the larynx or the deep musculature of the tongue base may require a simultaneous laryngectomy to prevent constant aspiration. In most cases, these patients will be treated initially with radiation in an effort to preserve organ function.[11] For those with advanced malignancies of the oropharynx for whom surgery is the primary treatment, postoperative radiation therapy is recommended.[12]

Oral Cavity

Although some centers treat patients with early malignancies of the oral cavity (T1 and T2) with radiation therapy (external beam or interstitial brachytherapy), we generally recommend surgical excision as the primary treatment modality for these patients.[13] If early lesions can be completely excised, radiation therapy and the xerostomia that follows treatment of the mouth may be avoided. Surgical excision of small lesions of the oral cavity generally has less effect on speech and swallowing...
than excision of tumors of a similar size in the larynx or oropharynx, and evidence indicates that tumors in the oral cavity are less radiosensitive than those in other sites in the head and neck. Radiation of the mandible occasionally results in devastating osteoradionecrosis. Postoperative radiation is recommended for patients with tumor involvement in surgical margins, with high-grade lesions, or with advanced nodal metastases in the neck.

Patients with advanced lesions of the oral cavity - T3 (lesions of more than 4 cm) and T4 (bone or deep tongue-muscle invasion) - undergo composite resection of the malignancy, neck dissection, and reconstruction as the primary therapy.[14] Tumors that require only resection of soft tissues may be reconstructed with a variety of local, regional, or distant flaps. Lesions that involve the mandible will require either a partial mandibulectomy (leaving the mandibular continuity intact), or a segmental mandibulectomy (in which mandibular continuity must be restored) requiring an alloplastic implant (eg, a titanium plate) combined with a pedicled musculocutaneous flap[15] or a microvascular free-tissue transfer that contains bone.[16] Osseointegrated implants for eventual dental rehabilitation may be considered, based on the patient's dentition and ability to tolerate the increased operative time, as well as the desires of the patient. All procedures require postoperative radiation.

Coordination of Treatment

Treatment of malignancies of the head and neck requires the expertise of many disciplines. Careful coordination of the services of all members of the multidisciplinary team is essential for the timeliness of treatment as well as optimal patient outcomes. Delays in initiating postoperative radiation therapy are detrimental to tumor control and patient survival.[17] An attempt is made to begin postoperative radiation within four weeks of surgery.

Long-Term Follow-Up

Since early detection of a recurrence affords the best chance of effective treatment, close follow-up is mandatory for patients undergoing treatment for head and neck cancer.[18] Follow-up is particularly important for patients who have undergone radiation, since the only potentially curative option in the event of a recurrence is surgery. We recommend monthly follow-up for the first year posttreatment, bimonthly for the second year, and trimonthly for the third year. Patients are seen every six months during the fourth and fifth years and yearly thereafter. Lifelong follow-up is required due to the high incidence of second malignancies of the aerodigestive tract in patients who have had a head and neck carcinoma.[19] Patients are evaluated before and after treatment for functional impairments in speech and swallowing. The need for therapy is based on the nature of the difficulty. An attempt is made to rehabilitate speech in all patients who undergo total laryngectomy.[20]

A nasogastric tube or a gastrostomy tube is used to manage the effects of dysphagia on nutritional status until the swallowing mechanism has been healed or rehabilitated sufficiently.[21] Physical therapy is provided when the range of motion in the neck has decreased or when shoulder disability follows treatment.

Appreciation is expressed to members of the Clinical Practice Guidelines Committee for the Head and Neck Program for their help in developing the guidelines: Penny Fisher, RN; Andy Trotti, MD; Carlos Maro-Cacho, MD; Ronald DeConti, MD; Paula Sullivan, MS, CCC-SLP; Agnes Smith, RN; and Toni Milstead.

References

Summary Algorithm for Management of Malignant Neoplasms of the Oral Cavity
Summary Algorithm for Management of Malignant Neoplasms of the Oropharynx