Surgical Management of Oral Cancer

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KEYWORDS

• Oral cancer • Mandibulectomy • Maxillectomy • Glossectomy • Neck dissection

KEY POINTS

- Primarily, surgery is the standard of care for early-stage oral cancer.
- Distant metastasis must be ruled out before proceeding with surgical management of an oral cancer.
- Oral cavity squamous cell carcinoma (SCC) is best managed with 1- to 1.5-cm surgical margins.
- There is a survival benefit in performing a selective neck dissection in early-stage oral cavity SCC.

ROLE OF SURGERY IN HEAD AND NECK CANCER MANAGEMENT

Today, most head and neck cancer subsites, such as the larynx, hypopharynx, nasopharynx, and oropharynx, are treated with radiation therapy (XRT) with or without chemotherapy as a primary treatment modality. Recent advances with transoral robotic surgery (TORS) have significantly impacted the management of cancers of the oropharynx. Surgery is reserved for the salvage of recurrent tumors that occur within the head and neck in the absence of distant (ie, lung, liver) metastasis. The results of the Veterans Administration Larynx Trial published in 1991 identified induction chemotherapy followed by XRT provided the same 2-year survival as conventional laryngectomy plus adjuvant XRT.[1] Furthermore, in this study, the larynx was preserved in 64% of patients in the chemoradiotherapy (CRT) arm of the study.[1] Today, roughly 30% to 40% of patients who undergo primary CRT for laryngeal squamous cell carcinoma (SCC) will experience treatment failure with locoregional recurrence of their tumor, and in the absence of distant metastasis, these patients will go on to require either a partial or a total laryngectomy (**Fig. 1**).[2,3]

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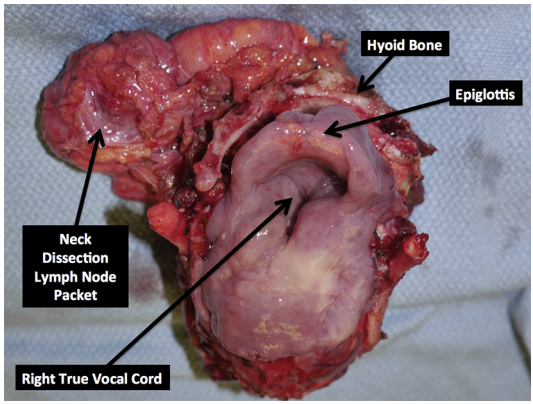

Fig. 1. Total laryngectomy specimen, which includes the epiglottis, vocal cords, thyroid cartilage, cricoid cartilage, hyoid bone, upper tracheal rings, and neck dissection lymph node packet.

Contrary to the larynx, the oropharynx as a subsite has been shown to benefit from primary surgery with adjuvant therapy as needed. However, the extirpation of advanced malignant neoplasms of the oropharynx traditionally required open approaches that required invasive transcervical surgical approaches, such as lip-split with mandibulotomy/mandibulectomy (**Fig. 2**). Although transcervical approaches such as the lip-split mandibulotomy can appear quite graphic and morbid, the benefit from extirpation of SCC of the oropharynx results in the ability to achieve locoregional disease control with a 20% reduction in locoregional recurrence in comparison to primary CRT.[4] This benefit in locoregional disease control and overall survival provided by primary surgery in oropharyngeal SCC served the basis for significant surgical innovation in head and neck surgery. In search of less invasive surgical approaches, Hockstein and colleagues[5] reported on the potential of the da Vinci surgical system (Intuitive Surgical, Inc, Sunnyvale, CA, USA) system in performing extirpative operations that would have classically required a transcervical access–type approach. In 2009, the US Food and Drug Administration approved the da Vinci robotic surgery

Fig. 2. Intraoperative photograph following tumor extirpation requiring lip-split mandibulectomy.