

Henry Ford Health

Henry Ford Health Scholarly Commons

Radiation Oncology Articles

Radiation Oncology

3-15-2022

Young Patient, Old Evidence

Farzan Siddiqui

Follow this and additional works at: https://scholarlycommons.henryford.com/radiationoncology_articles



GRAY ZONE EXPERT OPINIONS

Don't Take the Bait, Radiate: Importance of Adjuvant Radiation Therapy for Oral Tongue Cancer



This young patient with a lack of traditional risk factors for oral cavity cancer (OCC) presents with a pathologic T2N1 stage III squamous cell carcinoma (SCC) of the tongue.¹ Given the patient's young age, the omission of adjuvant radiation therapy may seem compelling. However, she has 2 indications for adjuvant radiation therapy: a depth of invasion of ≥ 5 mm and a positive node. Although omission of adjuvant therapy could be considered for a similar stage low risk oropharynx SCC, OCC carries a worse prognosis. Furthermore, ipsilateral level IB, a potential first-echelon drainage site, was not dissected and may harbor microscopic disease.

We recommend postoperative radiation therapy with 60 Gy in 30 fractions to the primary site and ipsilateral levels IA through IV, with undissected regions receiving 54 Gy. We at minimum include contralateral level IB with submandibular gland sparing, a possible first-echelon contralateral drainage site. Primary tumor with several pathologic risk factors, approaching midline, or floor of mouth invasion necessitates comprehensive contralateral neck coverage.

Regarding systemic therapy, we favor clinical trial enrollment as this patient lacks the standard indication for concurrent chemotherapy: positive margin or extracapsular extension.² RTOG 0920 investigated concurrent cetuximab for intermediate-risk postoperative head and neck SCC, as we know concurrent cetuximab improves survival compared with definitive radiation alone in non-OCC head and neck SCC, so we await the full results before implementing off trial.³ Neoadjuvant immunotherapy is also being investigated for locally advanced OCC; however, this patient was clinical T1N0 at presentation and would not qualify.⁴

Lastly, it is important to recognize that in young patients without a history of smoking, alcohol use, or premalignant lesions, OCC has a poorly understood biological component. As radiation oncologists, we are appropriately concerned about the long-term effects of radiation therapy; however, the morbidity and mortality of recurrent OCC must not be underestimated.⁵

Sarah S. Kilic, MD
Shauna R. Campbell, DO
Cleveland Clinic
Department of Radiation Oncology
Cleveland, Ohio

Disclosures: none.

References

1. Hara JHL, Juloori A. Node out, about it? Consideration of adjuvant treatment of oral tongue cancer. *Int J Radiat Oncol Biol Phys* 2022;112:849.
2. Bernier J, Cooper JS, Pajak TF, et al. Defining risk levels in locally advanced head and neck cancers: A comparative analysis of concurrent postoperative radiation plus chemotherapy trials of the EORTC (#22931) and RTOG (# 9501). *Head Neck* 2005;27:843–850.
3. Bonner JA, Harari PM, Giralt J, et al. Radiotherapy plus cetuximab for locoregionally advanced head and neck cancer: 5-year survival data from a phase 3 randomised trial, and relation between cetuximab-induced rash and survival. *Lancet Oncol* 2010;11:21–28 Erratum in: *Lancet Oncol* 2010;11:14.
4. Schoenfeld JD, Hanna GJ, Jo VY, et al. Neoadjuvant nivolumab or nivolumab plus ipilimumab in untreated oral cavity squamous cell carcinoma: A phase 2 open-label randomized clinical trial. *JAMA Oncol* 2020;6:1563–1570.
5. Tam S, Araslanova R, Low T, et al. Estimating survival after salvage surgery for recurrent oral cavity cancer. *JAMA Otolaryngol Head Neck Surg* 2017;143:685–690.

<https://doi.org/10.1016/j.ijrobp.2021.12.158>

Young Patient, Old Evidence



This young patient initially had clinical T1N0 (0.8 cm) oral tongue cancer, which after surgery was noted to be pathologic T2 by virtue of its size (1.5 cm) and depth of invasion (0.7 cm).¹ Additionally, the patient has a metastatic ipsilateral neck node (N1). Therefore, I would recommend adjuvant radiation therapy for this patient with a stage III squamous cell carcinoma of the oral tongue. Although there is no evidence of perineural or lymphovascular invasion, I would ask the pathologist to comment on the presence or

absence of worst pattern of invasion 5 in the primary tumor specimen. The presence of this negative prognostic feature would further tilt the balance in favor of offering radiation therapy.

Her young age with no obvious predisposing etiologic factors may also be of concern. Epidemiologic studies reveal an increasing incidence of oral tongue cancer among young nonsmokers, and some evidence suggests that this demographic may have a more aggressive disease course with inferior prognosis compared with the traditional demographic of older men with a long history of tobacco abuse.²

Historical studies by Rouviere and more recent imaging studies done as part of the sentinel lymph node trials unequivocally demonstrate the crossover of lymphatics in oral tongue and floor of mouth cancers.³ Hence, I would treat the primary tumor bed and ipsilateral neck (levels 1-3) to a dose of 60 Gy while delivering 54 Gy to the ipsilateral level 4 and contralateral neck in the same 30 fractions using a simultaneous integrated boost technique.

Although the standard-of-care recommendation in this case would be external beam radiation therapy alone, I would also strongly consider enrolling the patient in clinical trials, such as Radiation Therapy Oncology Group study 0920 (now closed to accrual), EA 3132 study (Eastern Cooperative Oncology Group-American College of Radiology Imaging Network), or other novel immunotherapy trials, which are evaluating the role of treatment intensification in patients with intermediate-risk head and neck squamous cell carcinoma.

Farzan Siddiqui, MD, PhD, CPE
Head and Neck Radiation Oncology
Henry Ford Cancer Institute
Radiation Oncology
Detroit, Michigan

Disclosures: None.

References

1. Hara JHL, Juloori A. Node out, about it? Consideration of adjuvant treatment of oral tongue cancer. *Int J Radiat Oncol Biol Phys* 2022;112:849.
2. Lenze NR, Farquhar DR, Dorismond C, et al. Age and risk of recurrence in oral tongue squamous cell carcinoma: Systematic review. *Head Neck* 2020;42:3755–3768.
3. Schilling C, Stoeckli SJ, Haerle SK, et al. Sentinel European Node Trial (SENT): 3-year results of sentinel node biopsy in oral cancer. *Eur J Cancer* 2015;51:2777–2784.

<https://doi.org/10.1016/j.ijrobp.2020.10.015>

Depth of Invasion in Oral Tongue Cancer and Risk of Regional Failure



Treatment of a young, nonsmoking female patient with oral tongue cancer represents a well-recognized clinical challenge.¹ In this case, the patient presented clinically as T1N0M0. However, after partial glossectomy and elective neck dissection, pathology revealed a pT2N1 lesion that was upstaged based on a depth of invasion of 7 mm .

There is a temptation to consider treatment complete and spare this young patient the long-term morbidity of adjuvant radiation. However, the presence of occult nodal metastasis in T1-2 oral cavity cancer increases the risk of dying of disease. Moreover, for T1-2N0 oral tongue cancer in patients deemed low risk after partial glossectomy and negative neck dissection who were observed, the presence of a depth of invasion of 4 mm or greater predicted a >20% risk of regional failure.² Importantly, approximately 40% of the failures occurred in the contralateral neck. Of the patients who experienced failure, only approximately 1 in 3 could be salvaged. Given this significant rate of contralateral lymphatic drainage of even lateralized tongue cancer, we often recommend sentinel node mapping and excision at the time of surgery.

For this case, we would recommend adjuvant radiation to the bilateral neck and the primary site to include in-transit lymphatics. Treatment of the ipsilateral neck would encompass levels I-IV, prescribed to a dose of 60 Gy to levels I-III, 57 Gy to level IV, and 54 Gy to the retrostyloid nodes. Contralateral neck treatment would include elective treatment to levels IB-III to a dose of 54 Gy with sparing of the retrostyloid area.

With regard to brachytherapy for the treatment of early-stage tongue cancer, our group and others have shown excellent outcomes incorporating adjuvant brachytherapy as a boost or standalone treatment in patients with close/positive margins and/or focal perineural invasion at the primary site.³ For this patient, the main risk of failure is regional; therefore, she would not benefit from brachytherapy.

Enrollment in a clinical trial would be ideal. However, this patient would have not been eligible for Radiation Therapy Oncology Group (RTOG) 0920, which required 1 “intermediate” risk factor (perineural invasion, lymphovascular invasion, a single lymph node greater than 3 cm or 2 lymph nodes involved, and/or close margins), nor would she have been eligible for the current neoadjuvant immunotherapy trial enrolling clinically node-positive patients.