

Updates in Oral Cavity Cancer

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• Nothing to disclose





To improve communication between the pathologist and providers of care for head and neck cancer patients



Learning Objectives

- To outlaw excisional biopsies in oral cavity cancer
- Discuss role of SNLBX in oral cavity cancer
- Understand the importance of depth of invasion (DOI) in new staging system
- Understand the importance of extranodal extension (ENE) in the new staging system
- Consider surgeon orientation of oral cavity specimens
- Develop a comprehensive pathologic report including staging



- Unnecessary to arrive at a diagnosis
- Frequently have positive margins
- Frozen section analysis frequently not done
- Definitive surgery generally larger than necessary
- Larger surgery translates to need for reconstruction
- Subjects patient to unnecessary general anesthesia



Proper Biopsy for DX





Management of the NO Neck

- Sentinel lymph node biopsy
- Elective neck dissection





- Two prospective studies
- Civantos found a negative predictive value of 96%
- Alkureishi concluded that SNLBX was at least equivalent to ELND

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2018 Updates to Oral Cavity Staging

- Depth of invasion (DOI) now is a significant part of T stage
- ENE is a significant factor in oral cavity tumor N stage



Measurement of DOI





- T1: Tumor $\leq 2 \text{ cm}, \leq 5 \text{ mm}$ depth of invasion (DOI)
- T2: Tumor ≤2 cm, DOI >5 mm and ≤10 mm or tumor >2 cm but ≤4 cm, and ≤10 mm DOI
- T3: Tumor >4 cm *or* any tumor with **DOI >10 mm** but ≤20 mm
- T4a: Moderately advanced or very advanced local disease
 A: Moderately advanced local disease
 Tumor invades adjacent structures only (e.g., through cortical bone of the mandible or maxilla, or involves the maxillary sinus or skin of the face)* or extensive tumor with bilateral tongue involvement and/or DOI > 20 mm.



New 2018 cN Stage

- N1: Metastasis in a single ipsilateral lymph node, 3 cm or smaller in greatest dimension ENE(-)
- N2: Metastasis in a single ipsilateral node larger than 3 cm but not larger than 6 cm in greatest dimension and ENE(-); or metastases in multiple ipsilateral lymph nodes, none larger than 6 cm in greatest dimension and ENE(-); or in bilateral or contralateral lymph nodes, none larger than 6 cm in greatest dimension, and ENE(-)
- N3: Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(-); or metastasis in any node(s) and clinically overt ENE(+)
 - N3a Metastasis in a lymph node larger than 6 cm in greatest dimension and ENE(-)
 - N3b Metastasis in any node(s) and clinically overt ENE(+)





- N1- Single ipsilateral lymph node 3 cm or < ENE (-)
- N2
 - **— a-** 3 cm or < and ENE (+) or > 3 cm and < 6 cm ENE (-)
 - b- Multiple ipsilateral lymph nodes none > 6 cm ENE (-)
 - C- Bilateral or contralateral lymph nodes none > 6 cm ENE (-)
- N3
 - a- > 6cm ENE (-)
 - b- > 3 cm and ENE (+); multiple ipsilateral, bilateral any with ENE (+) or a single contralateral node any size ENE (+)



Tips and Tricks

- Encourage surgeons to ink their own specimens
- Report pathologic results in a comprehensive synopsis that includes all relevant pathologic information











Includes pTNM requirements from the 8th Edition, AJCC Staging Manual Protocol Posting Date: June 2017

Procedure: Right hemiglossectomy Tumor Site: Lateral border of tongue Tumor Laterality: Right Tumor Focality: Unifocal Tumor Size Greatest dimension (centimeters): 4.7 x 3.7 x 2.0 cm Tumor Depth of Invasion (DOI) (millimeters): 20 mm Histologic Type: Squamous cell carcinoma, conventional Histologic Grade (required for squamous cell carcinoma only): Moderately differentiated Specimen Margins: Uninvolved by invasive carcinoma and dysplasia. Invasive carcinoma measures 2 mm from the deep margin (in the posterior aspect of the resection) and more than 5 mm from all remaining margins on the main resection (part 3). Tumor Bed (Separately Submitted) Margin Orientation (required for squamous cell carcinoma only): Oriented to true margin surface Tumor Bed (Separately Submitted) Margins (required for squamous cell carcinoma only): All extended margins are negative for carcinoma. Lymphovascular Invasion: Present (focal) Perineural Invasion: Present (focal in a 0.5 mm nerve) +Worst Pattern of Invasion (WPOI): Not identified Regional Lymph Nodes Lymph Node Examination (required only if lymph nodes present in specimen) Number of Lymph Nodes Involved: 3 Number of Lymph Nodes Examined: 27 Laterality of Lymph Nodes Involved: Right (ipsilateral) Size of Largest Metastatic Deposit (centimeters): 1.6 cm Extranodal Extension (ENE): Identified, less than 2 mm Pathologic Stage Classification (pTNM, AJCC 8th Edition) TNM Descriptors (required only if applicable): Primary Tumor (pT): pT4a Regional Lymph Nodes (pN): pN3b Distant Metastasis (pM) (required only if confirmed pathologically in this case): Not applicable



- Excisional biopsies for oral cavity cancer are not warranted
- DOI is the most important prognostic factor in T stage
- ENE is the most important prognostic factor in N stage
- Surgeon inking of the specimen results in more accurate margin analysis
- A comprehensive synopsis of pathologic results facilitates the use of pathologic staging for treatment decisions



Updates in Oropharyngeal Cancer

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• Nothing to disclose





To improve communication between the pathologist and providers of care for head and neck cancer patients



Learning Objectives

- Understand the epidemiology of HPV related oropharyngeal cancer
- Understand that HPV status must be known
- Discuss the importance of HPV status in oropharyngeal cancer staging
- Recognize the drastic difference in overall stage in HPV (+) tumors
- Discuss different treatment options for oropharyngeal cancer
- Understand the concept of de-escalation therapy



Epidemiology HPV Related OP Cancer



Chaturvedi, A et al. Human papillomavirus and rising oropharyngeal cancer incidence in the United States. J Clin Oncol 29:4294-4301.





Chaturvedi, A et al. Human papillomavirus and rising oropharyngeal cancer incidence in the United States. J Clin Oncol 29:4294-4301.



Overall modeled prevalence, any HPV



Gillison, M et al. Prevalence of oral HPV infection in the United States, 2009-2010. JAMA, 2012;307(7):693-703.



- Not acceptable to not know the HPV status
- Separate staging systems for HPV (+) and HPV (-)
- Separate staging criteria for clinical and pathologic
- ENE factors heavily in HPV (-) N stage
- ENE is not considered in HPV (+)
- No N3 in HPV positive N stage
- T stage essentially unchanged for either HPV (+) and (-)



HPV (–) cN Stage

- N1- Single ipsilateral lymph node 3 cm or smaller ENE (-)
- N2
 - a- Single ipsilateral lymph node > 3 cm and < 6 cm ENE (-)
 - b- Multiple ipsilateral lymph nodes < 6 cm ENE (-)
 - C- Bilateral or contralateral lymph nodes ENE (-)
- N3
 - a- > 6 cm ENE(-)
 - b- Any node with clinically overt ENE (+)



HPV (-) pN Stage

- N1- Single ipsilateral lymph node 3 cm or < ENE (-)
- N2
 - **— a** 3 cm or < and ENE (+) or > 3 cm and < 6 cm ENE (-)
 - b- Multiple ipsilateral lymph nodes none > 6 cm ENE (-)
 - C- Bilateral or contralateral lymph nodes none > 6 cm ENE (-)
- N3
 - a- > 6cm ENE (-)
 - b- > 3 cm and ENE (+); multiple ipsilateral, bilateral any with ENE (+) or a single contralateral node any size ENE (+)



HPV (+) cN Stage

- N1 one or more ipsilateral lymph nodes < 6 cm
- N2 contralateral or bilateral lymph nodes < 6 cm
- N3 Lymph node(s) > 6 cm



HPV (+) pN Stage

- N1 Metastasis in 4 or fewer lymph nodes
- N2 Metastasis in > 4 lymph nodes
- No N3



Pathological

Stage I	T0, T1, T2	N0, N1	M0
Stage II	T0, T1, T2	N2	M0
	T3, T4	N0, N1	M0
Stage III	T3, T4	N2	M0
Stage IV	Any T	Any N	M1



Principals of Treatment

- Chemoradiotherapy
- Transoral Robotic Surgery (TORS)
- Treatments are equivalent
- Concept of de-escalation therapy for HPV (+)



TORS

- Smaller primary tumors
- Goal is de-escalation of adjuvant XRT
- Implications for the pathologist
 - Acceptance of narrow margins











De-escalation Therapy

- Current area of investigation
- The question is whether HPV (+) tumors need standard doses of XRT
- Settings are in the definitive and adjuvant setting
- Ongoing clinical trials attempting to answer these questions



Conclusions

- Patients with HPV (+) tumors tend to be male and have a bimodal age distribution
- HPV status in oropharyngeal tumors must be known
- Due to improved prognosis HPV (+) tumors have their own staging system
- ENE status factors heavily in HPV (-) tumors
- Current treatment modalities include chemoXRT and TORS
- De-escalation of therapy is an ongoing area of investigation in HPV (+) oropharyngeal cancer