Considerations in Managing Recurrent Oral Cancer

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I have nothing to disclose
Overview

• Follow-up of oral cavity cancer patients
  – Clinical evaluation
  – Role of imaging
• Management options for recurrent disease
  – Surgical salvage
  – Radiation/re-irradiation/brachytherapy
  – Chemotherapy
• The role of palliative care

Recurrence Risk of Oral Cancer

• 10-26%, most within the first 3 years
• Up to 88% of recurrences are symptomatic
  – New symptoms or increase in intensity are more specific
• Asymptomatic patients fare better
Regular Follow-up Is Important

• With whom? How often? For how long?
• Imaging studies?
  – 11% of local, 19% of asymptomatic regional failures on CT
  – MRI may better detect extent of disease

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Follow-up interval</th>
<th>Clinical examination</th>
<th>Imaging device</th>
</tr>
</thead>
<tbody>
<tr>
<td>First year</td>
<td>1-6 months after discharge</td>
<td>Every 6 weeks</td>
<td>x</td>
<td>Either CT or MRI</td>
</tr>
<tr>
<td></td>
<td>7-12 months</td>
<td>Every 3 months</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Second year</td>
<td>13-24 months</td>
<td>Every 6 months</td>
<td>x^2</td>
<td></td>
</tr>
<tr>
<td>Third year</td>
<td>25-36 months</td>
<td>Every 3 months</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Fourth year</td>
<td>37-48 months</td>
<td>Every 6 months</td>
<td>x^2</td>
<td></td>
</tr>
<tr>
<td>Fifth year</td>
<td>49-60 months</td>
<td>Every 3 months</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

Rivelli V et al. Head Neck Oncol 2011;3:18
Wiener E et al. Eur J Radiol 2006;58:113

Room for Interpretation
**PET-CT for Treatment Response**

- Assess response no sooner than 12 weeks
  - Limits false positives
  - Allows for resolution of inflammation
- Hopkins criteria to assess response
  - 92.2% specific, 91% NPV

<table>
<thead>
<tr>
<th>Score</th>
<th>FDG Uptake Pattern</th>
<th>Response Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Uptake at the primary site and nodes less than background blood pool (internal jugular vein) uptake</td>
<td>Complete metabolic response</td>
</tr>
<tr>
<td>2</td>
<td>Focal uptake at the primary site and nodes greater than blood pool (internal jugular vein) but less than liver uptake</td>
<td>Likely complete metabolic response</td>
</tr>
<tr>
<td>3</td>
<td>Diffuse uptake at the primary site or nodes greater than blood pool (internal jugular vein) or liver uptake</td>
<td>Likely postradiation inflammation</td>
</tr>
<tr>
<td>4</td>
<td>Focal uptake at the primary site or nodes, greater than liver uptake</td>
<td>Likely residual tumor</td>
</tr>
<tr>
<td>5</td>
<td>Focal and intense uptake at the primary site and nodes</td>
<td>Residual tumor</td>
</tr>
</tbody>
</table>

*SUV\text{\tiny max} and Local Recurrence*

![Box plot showing SUV\text{\tiny max} and Local Recurrence](Muller J et al. Laryngoscope 2015;125:1861)
Imaging Recommendations

- NCCN leaves the door open
- Surveillance after therapy
  - Contrasted CT or MRI at 6-8 weeks, PET-CT at 12 weeks
  - Annual chest imaging
  - Future imaging based on initial findings, patient factors
  - Pick a modality and stick with it (CT or MR)
- “… the managing physician should continue to be empowered to determine the type and frequency of imaging studies that would be most appropriate”

Imaging Challenges
Tumor Classification

- Persistent disease
  - Evidence of disease was present at initial diagnosis
  - Tumor detected within 3 months of treatment completion

- Recurrent disease
  - Minimum of 3 months without symptoms or findings

- Second primary tumor
  - Involves different, noncontiguous anatomic subsite

Therapeutic Considerations

- Extent of recurrence
- Prior therapy(ies), disease-free interval
- Functional status, comorbidity
- Potential impact of additional therapy
  - Speech
  - Swallowing
  - Appearance
  - Independence
- Patient and family wishes
Prognosis of Recurrent Oral Cavity SCC

- 30-45% salvage rate, better with surgery
- Median survival of 5-26 months
Factors in Salvage Rate

- TNM stage of primary disease, prior therapy
- TNM stage of recurrent disease
- Weight loss (especially > 20%)
- Mylohyoid/constrictor invasion
- Thickness of recurrent tumor (1cm)
- Time of recurrence
  - Persistent disease is worse than recurrence, SPT
    - 5.61 RR of < 1 year mortality after salvage surgery
  - Improved chance of salvage if recurrence > 10 months

Koo BS et al. Oral Oncol 2006;42:789

Prognosis of Recurrent Oral Cavity SCC

Role of Palliative Care

- Interdisciplinary, supportive care in advanced illness
  - Physical, emotional, and psychological axes
  - Regardless of age, diagnosis, or life expectancy
- Goals
  - Prevent and relieve suffering
  - Improve quality of life
- Patients may continue to be treated for cure
- Multidisciplinary effort
  - Involve the team with the patient and family early
  - Seek to meet needs of patient, family, and care team

The Rubber Meets the Road

- 78 year-old female with long history of SCC oral tongue
  - Right partial glossectomy with right SND I-III, 1/4/2006 (pT1N0M0, margins clear, 0/11 LNs involved)
  - Left partial glossectomy and left neck dissection, 2012
  - Concurrent CRT (unclear agents, dosimetry), 2012
  - Revision left partial glossectomy, 4/14/2014 (pT1N0, margins clear, 6mm depth, 1.2cm maximum dimension)
- Left tongue pain, otalgia, odynophagia, weight loss
- Nonsmoker, controlled HTN
- Repeat biopsy = SCC
- Options?
Recurrent SCC Oral Tongue

- Tethered, tender tongue
- Submucosal nodularity
- No nodes
- Airway widely patent
- Workup
  - CT scan with contrast
  - PET-CT
  - Anesthesia clearance
Recurrent SCC Oral Tongue

- Local failure only (rT2-3)
- Other considerations for therapy
  - Patient and family wishes
  - Mandible involvement
  - Reconstructive needs
    - Recipient vessels
    - Potential donor sites
  - Comorbidity
  - Post-discharge care

**Importance of Mandible Involvement**

- **Degree of Involvement**
  - **Adjacent**
    - Consider MM if flap required
    - Subperiosteal Resection
  - **Adherent**
    - Marginal Mandibulectomy
  - **Invasion**
    - Segmental Mandibulectomy if prior MM, RT, poor quality bone
    - Segmental Mandibulectomy if prior RT and/or poor quality bone and/or trauma
Recurrent SCC Oral Tongue

- Therapy
  - Subtotal glossectomy, including left floor of mouth, mandibular gingiva
  - Revision left neck dissection
  - Tracheostomy
  - ALT free flap (lingual artery + EJV)
- Uneventful postoperative course (LOS = 11 days)
- Supraglottic failure, 7 months later
- Palliative chemotherapy (AWD at 11/18 months)

Managing Regional Failure

- Occur in 16% of cases
  - Rate affected by prior therapy
  - Ipsilateral, contralateral, or bilateral
  - Prognosis is limited → 40% unfit for surgery

Considerations in Neck Salvage

- **Contraindications**
  - Dermal invasion/metastases
  - Invasion of deep neck musculature
  - Brachial plexus fixation
  - Base of skull erosion/invasion

Challenges with Neck Salvage

- **Carotid artery involvement**
  - Median OS of 9.6 mos for recurrent disease
  - Unresectable if > 270° or narrowing on imaging
Charlson-Age Comorbidity Index

- Administrative data
- Calculation
  - Weighed comorbidities
  - Age factor
- Impact
  - Mean CACI of 8 for patients who died within 1 year
  - For every unit increase in total CACI score, the odds of death within 1 year after salvage surgery increased by 43%


Fuel for Second Guessing

- Salvage surgery “adds significant morbidity to all with potentially increased mortality in some patients”
Impact of CACI on Survival

![Graph showing survival probability over time with comorbidity score comparison]

Original Investigation

Selection of Ideal Candidates for Surgical Salvage of Head and Neck Squamous Cell Carcinoma
Effect of the Charlson-Age Comorbidity Index and Oncologic Characteristics on 1-Year Survival and Hospital Course

<table>
<thead>
<tr>
<th>Effect</th>
<th>OR (95% CI)</th>
<th>P-Value</th>
</tr>
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<tbody>
<tr>
<td>Total comorbidity score*</td>
<td>1.43 (1.16-1.76)</td>
<td>&lt; .001*</td>
</tr>
<tr>
<td>N stage (N0/1 vs N2)</td>
<td>0.70 (0.45-1.09)</td>
<td>.24</td>
</tr>
<tr>
<td>Closure (invasive vs noninvasive)</td>
<td>2.45 (0.74-8.05)</td>
<td>.14</td>
</tr>
<tr>
<td>Adjuvant radiation (vs no adjuvant) therapy</td>
<td>1.74 (0.77-4.80)</td>
<td>.14</td>
</tr>
<tr>
<td>Adjuvant CRT (vs no adjuvant therapy)</td>
<td>0.79 (0.50-1.26)</td>
<td>.32</td>
</tr>
<tr>
<td>T stage (T3 or 4 vs T1 or 2)</td>
<td>2.34 (1.27-4.31)</td>
<td>.006*</td>
</tr>
<tr>
<td>Former or current smoker</td>
<td>1.50 (0.45-5.58)</td>
<td>.57</td>
</tr>
<tr>
<td>Disease free at ≤6 mo</td>
<td>5.61 (1.78-16.7)</td>
<td>.003*</td>
</tr>
</tbody>
</table>
Recurrent SCC Oral Tongue

http://www.pmidcalc.org/?sid=7722560&newtest=Y

“Can” versus “Should” Surgical Salvage

- Patient and family wishes
- Is it resectable?
- Is it reconstructable?
- Anticipated (potential) functional deficits
- Trade-offs →
  - Pain versus speech
  - Swallowing versus speech
  - Quality versus quantity???
- Define the goals of therapy
Palliative Surgery

- 48 year-old female with persistent oral tongue SCC
  - Completed IMRT to posterior oral tongue, 12/2011
  - Worsened symptoms, pain, radiographic disease
  - Radical resection and free flap/plate reconstruction 4/2012
  - Symptom-free interval until PD (local, distant) 8/2012

Palliative Surgery

- Component of multidisciplinary palliative approach
- “should affirm life and regard dying as a natural process”
- Neither hasten nor postpone death
- Provide relief from pain and distressing symptoms
- Examples:
  - Airway maintenance (tracheostomy, stents)
  - Nutritional support, hemorrhage control
  - Tumour debulking, ablation, PDT
  - Fistula closure, pain control, corneal protection

Nonsurgical Therapeutic Options

• Best supportive care
• Palliative chemotherapy
• Chemoradiation therapy
• Re-irradiation
• Transition of care focus
  – End of life transition more commonly recommended by
    • Younger physicians
    • Subspecialists
    • Academic or tertiary care practice environment

Multiple Factors to Consider

<table>
<thead>
<tr>
<th>Conclusions</th>
<th>Recommendations for Practice</th>
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</thead>
<tbody>
<tr>
<td>Physicians taking into account head and neck cancer patients’ clinical symptoms often overestimate the negative impact of these symptoms on their quality of life.</td>
<td>Early discussion of patients’ expectations of symptoms and end-of-life preferences is crucial, before communication barriers arise.</td>
</tr>
<tr>
<td>It is unclear how perceptions of patients’ desired degree of autonomy and a social support network influence palliative-intent treatment consideration by head and neck surgical oncologists.</td>
<td>Patient preferences for degree of autonomy and the desired decision-making roles of caregivers and family members should be discussed explicitly.</td>
</tr>
<tr>
<td>Patients’ financial and insurance status affects medical decisions about hospice care.</td>
<td>More research into the clinical and ethical implications of these influences is warranted.</td>
</tr>
<tr>
<td>Younger age, surgical specialization (vs internist), and academic and/or tertiary medical center practice setting are all associated with increased willingness to withdraw life support.</td>
<td>Further study is needed to know whether head and neck surgical oncologists follow these trends.</td>
</tr>
<tr>
<td>Physicians’ emotions (eg, sadness, guilt), close relationship with patients, and desire to avoid taking away hope, in addition to their religious or moral beliefs, can act as barriers to conversations about palliative-intent treatments.</td>
<td>Head and neck surgical oncologists should consider how such emotional factors may influence their clinical decision making and how to responsibly manage these potential biases.</td>
</tr>
</tbody>
</table>
Thank You

Pony RJ et al. JAMA Otolaryngol Head Neck Surg 2015;141:5