Surgical Considerations: Primary Tumor and N+ Neck

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Current Perspectives in Head and Neck
And Lung Cancer

Oral Cavity Cancer

• Anatomical/Biological Challenges
  – Lack of natural tumor barriers
  – Robust lymphatic drainage
  – Capacity for contralateral spread
Surgical Management of the Primary Tumor

- Goals of surgery
  - Primary: Complete resection of the tumor with negative margins
  - Secondary: Achieve functionally and aesthetically acceptable reconstruction

- Margin status is one of the most important variables associated with survival
  - Locoregional control significantly improved with margin >0.5 cm compared to margin <0.5 cm
  - Possibly greater benefit with pathologic margin 0.7 cm

Chinn SB. JCO 2015.

Importance of Margins

- Comparison of 3 groups:
  - A. Negative frozen and permanent margin
  - B. Positive frozen cleared to negative
  - C. Negative frozen, positive permanent

- Results: significant difference in local recurrence between A and the other groups, no difference between B and C.

- Take Home: Re-resection of a positive frozen section margin does not improve prognosis

Buchakjian MR et al. JAMA Oto 2016.
Importance of Margins

• Specimen vs Tumor bed margins
  – pT1-2 oral tongue SCCA
    • 3 groups
      – 1. Margins from glossectomy specimen
      – 2. Positive glossectomy margins, revised to negative with tumor bed margins
      – 3. Margins from tumor bed

• Results:
  – Distance to closest margin closer in group 3 than group 1
  – Status of margin from specimen correlated with LR while tumor bed margins did not
  – Take Home: Worse local control noted with margin sampling from tumor bed

Maxwell et al. JAMA Oto 2015.

Surgical Approach

• Dictated by location and extent of tumor

• Most anterior tongue, FOM and buccal mucosa tumors may be addressed transorally

• Posterior tumors may require a pull-through approach or lip-split with mandibulotomy
Surgical Approaches

Special Considerations: Tumors Abutting the Mandible

- Oral cavity tumors abutting the mandible may require marginal vs segmental mandibulectomy
  - Periosteal involvement: Marginal mandibulectomy has proven oncologically sound
  - Bone invasion requires segmental mandibulectomy and reconstruction

- Mandibulotomy with marginal mandibulectomy result in an unacceptably high rate of ORN
  - Segmental mandibulectomy required in these cases
Surgical Management of the Neck

- Goals of surgery
  - Staging and treatment of the N+ neck
    - Survival decrease by 50% in N+ disease
    - ECS portends regional and distant failure, OS, and DSS

- Extent of neck dissection has evolved
  - Radical to Selective
    - Radical neck dissection the mainstay until the latter 1/3 of the 20th century
    - Further work established the oncologic safety of the modified radical neck dissection and clarified lymphatic basins at risk
    - Selective neck dissection (levels I-III or I-IV) proven safe for N0 oral cavity SCCA
    - Appropriate operation for N+ cases somewhat more controversial

Surgical Management of the Neck

- Selective neck dissection generally thought feasible in those with N1 and some with N2 disease

- Some have advocated for MRND for all patients who are cN+

- Little prospective data on the topic
Surgical Management of the Neck

• Schiff et al 2005
  – Retrospective study of 220 patients with SCCA oral tongue, 64 of whom were N+
    • 45 Selective neck dissection, 19 MRND
      – Possible benefit of MRND in those with more advanced disease (≧ pN2)

• Clinical practice:
  – N1- levels I-IV
  – ≧N2 dictated by extent of disease, structures involved

Surgical Management of the Neck

• Importance of adequate neck dissection
  – Divi et al. JCO 2016.
    • Review of National Cancer Database
    • ~64, 000 patients
      – Compared those with <18 nodes to those with ≧18 nodes
        » 18% increased risk of death in those with <18 nodes in specimen
        » Survival advantage noted in both N0 and N+ populations
Reconstructive Considerations

• Goals: Optimization of speech, swallowing, aesthetics

• Defect-oriented approach
  – Location
  – Tissue type
  – Extent of mandibulectomy
  – Presence and condition of teeth

• Status of recipient vessels

The Vessel-Deplete Neck
The Vessel-Deplete Neck

- “Bail-out” vessel options
  - Contralateral neck
  - Transverse cervical
  - Superficial temporal
  - External carotid
  - Internal mammary
  - Thoracoacromial

- May require vein grafts