SCCA of the Larynx: What the Clinician Need to Know

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Technique

- Multi-detector (64 slice)
- 0.625mm acquisition
- 2.5 with 1.25mm overlap
- Contrast-enhanced
  - Approx 75cc
  - Dual Phase
- Quiet respiration

Sagittal

Coronal

Tuberculosis
Paraganglioma

SCCA

Subglottic Hemangioma
Courtesy of Varsha Joshi, MD

AVM
Chondrosarcoma
Vocal Cord Palsy

Larynx

- Glottic
- Supraglottic
- Subglottic
Treatment?

- T1: TLM, MRM, or HRT
- T2: Bulky, non-bulky
  - Bulky: HRT, MRM, or CRT
  - Non-bulky: TLM, CRT
- T3: Core biopsy
  - Bulky, extensive disease
    - HRT, CRT
  - Non-bulky
  - HRT, CRT
- T4: Non-metastatic
  - Bulky: HRT, CRT
  - Non-bulky: MRM

Surgery
Clin-/Rad+

- Exolaryngeal spread
- Cartilage Invasion
- Transglottic Spread
- Tumor Volume

Checklist

- Subglottic Spread

Total Laryngectomy required in many cases!!

Checklist

- Subglottic Spread
- Transglottic Spread
  - ? Voice Preservation Surgery

Transglottic Spread:
Supraglottic Carcinoma
Transglottic Spread:

- Supraglottic Carcinoma

- Glottic Carcinoma

Checklist

- Subglottic Spread
- Transglottic Spread
- Exolaryngeal Spread (T4)
  - Contraindication to Voice Preservation Surgery
  - Contraindication to NSOPT

Checklist

- Subglottic Spread
- Transglottic Spread
- Exolaryngeal Spread (T4)
  - Cartilage Invasion (T4)
  - Relative contraindication to Voice Preservation Surgery
  - Reduced local control to definitive RT or Surgery
Cartilage Invasion:

**CT**

- Erosion
- Lysis
- Tumor on both sides
- Diagnostic Accuracy
  - Sensitivity = 82%
  - Specificity = 79%

*Becker et al. Radiology 1997;203:521*

**AJCC 7th Edition**

**TVC Cancer Staging**

**T1:**
- T1a: Tumor limited to one vocal cord
- T1b: Tumor involves both vocal cords

**T2:**
- Tumor extends to supraglottis and/or subglottis, and/or with impaired vocal cord mobility

**T3:**
- Tumor limited to the larynx with vocal cord fixation and/or invasion of paraglottic space, and/or inner cortex of the thyroid cartilage

**T4:**
- T4a: Moderately advanced local disease: Tumor invade through the outer cortex of the thyroid cartilage and/or invade tissues beyond the larynx (e.g., trachea, soft tissues of neck including deep extrinsic muscle of the tongue, strap muscles, thyroid, or esophagus)
- T4b: Very advanced local disease: Tumor invades prevertebral space, encases carotid artery, or invades mediastinal structure

**Cartilage Invasion:**

**CT vs MR**

**Cartilage Invasion (T4):**

**MR**

- Replacement of high T1W signal
- ? Increased T2 signal
- ? Gd enhancement
- Diagnostic Accuracy:
  - Sensitivity = 89%
  - Specificity = 84%

*Becker et al. Radiology 1997;203:521*
Checklist

• Subglottic Spread
• Transglottic Spread
• Exolaryngeal Spread (T4)
• Cartilage Invasion (T4)
  Relative contraindication to Voice Preservation Surgery
  Reduced local control to definitive RT or Surgery

• Anterior Commissure
Summary

• Anatomy
• Checklist
  - Subglottic Spread
  - Transglottic Spread
  - Exolaryngeal Spread (T4)
  - Cartilage Invasion (T4)
  - Anterior Commissure
• Pyriform Sinus