Lip Cancer:
Treatment & Reconstruction

GBMC - Head & Neck Cancer Grand Rounds
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Lip Cancer: Treatment & Reconstruction

- Anatomic considerations
- Pathology & Staging
- Behavior & Prognosis
- Resection & Reconstruction Techniques
Lip Cancer: Treatment & Reconstruction

- 56 male, caucasian, non-smoker, carpenter
- Non-healing ulcer, 2 mos
- Steriod treatment
- T1N0M0 SCCa
- Excised 5mm margins
  - 2.4cm specimen (7cm lip)
  - Closed primarily
Anatomic Considerations

- Facial artery
  - superior & inferior labial branches
- Cranial Nerve V
  - Infraorbital and mental nerves
Anatomic Considerations

- Buccal & marginal branches of CNVII
- Sphincteric muscles & Dilator muscles
Anatomic Considerations

- **Aesthetic**
  - Subunits, mental labial sulcus
  - White line & vermilion

- **Functional**
  - Oral competence
  - Communication of emotion
  - Deglutition
  - Speech
    - labial sounds: “b”, “m”, “w”, “p”
    - Labial-dental sounds: “f”, “v”
Pathology

- Squamous Cell Carcinomas
  - 95% on Red lip (95%)
  - 90% on Lower lip versus 10% on Upper lip
  - Exophytic more common than ulcerative

- Minor Salivary gland tumors
  - Adenoid cystic, adenocarcinoma, mucoepidermoid

- Basal Cell
  - Usually on cutaneous white upper lip
Staging

- **Tx** - Primary can not be assessed
- **T0** - No evidence of primary
- **Tis** - Carcinoma in situ
- **T1** - Tumor 2 cm or less in greatest dimension
- **T2** - Tumor > 2cm but < 4cm in greatest dimension
- **T3** - Tumor more than 4 cm in greatest dimension
- **T4** - Tumor invades adjacent structures, e.g., cortical bone, tongue, skin of neck
Behavior & Prognosis

- Lips 25% of all oral cavity carcinomas
  - 1.8/100,000 (upper lip 2-8%, commissure 1%)
- Cervical metastases
  - initial presentation:
    - lower lip 10% - submental nodes
    - upper lip - preauricular, periparotid nodes
    - commissure 20% - submandibular nodes
- Surgical treatment, 0.5 cm margins
- Favorable prognosis 85 -90% 5 yr DFS
- Radiation Tx in patients with high surgical risk
Lower Lip Reconstruction

Figure 17. Lower lip reconstruction. (From Baker S: Reconstruction of the lip. In Baker SR, Swanson NA (eds): Local Flaps in Facial Reconstruction. St. Louis, Mosby, 1995; with permission.)
Wedge Excision & Primary Closure

- < 1/2 lip
- Upper or lower
- V-plasty
- M-plasty
  - larger lesion
  - wider inferior margin

Figure 51-4 Wedge excision and primary full-thickness repair.
Wedge Excision & Primary Closure

Improve vermilion-cutaneous matching with angulation of lateral incision border
Wedge Excision & Primary Closure

- Simple full-thickness excision
  - excellent oral opening

Hint: Mark vermilion border
Karapandzic Flap

- 1/2 to 2/3 Central Lower lip
Karapandzic Flap - technique

- Incise
  - skin and mucosa

- Preserve
  - branches CN V & VII
  - labial arteries
  - muscles if possible
Karapandzic Flap - intra-op
Karapandzic Flap - post-op

- Mild microstomia, but acceptable results
Bernard-von Burrow Flap

- 2/3 of lip
- Adequate adjacent cheek tissue
- Midline defect
Bernard-von Burrow Flap
Webster Modification

Webster modification: mucosa is advanced to create new lower lip vermilion
Bernard-von Burrow Flap
Webster Modification - intra-op

- 2/3 of lip
  - 4 cm of lip removed on this patient
Bernard-von Burrow Flap
Webster Modification - post-op
Nasolabial transpositional flaps

- 2/3 of lip
- Upper or lower lip
- Lateral defect
- Adequate adjacent cheek tissue
- Full or partial thickness
Gilles Fan Flap (Nasolabial transpositional flaps)
Nasolabial transpositional flaps

- 2/3 of lip
Nasolabial transpositional flaps
Upper Lip Reconstruction

Figure 9. Upper lip reconstruction. (From Baker S: Reconstruction of the lip. In Baker SR, Swanson NA (eds): Local Flaps in Facial Reconstruction. St. Louis, Mosby, 1995; with permission.)
Abbe Flap

- 1/2 - 2/3 of upper or lower lip
- Commissure not involved

FIGURE 5. Abbe-Sabattini cross lip flap. (A) “V” shaped incision diagrammed around lower lip lesion and proposed upper lip flap outlined. (B) Lesion removed, flap transposed and sutured into defect. Flap is designed with same height as defect but only 50% of width, resulting in equal width reduction of upper and lower lips. (C) Pedicle divided at 2 weeks, with Z-plasty performed at donor site to prevent notching.
Abbe Flap

- 1/2 - 2/3 of upper or lower lip
Abbe Flap

- 1/2 - 2/3 of upper or lower lip
Estlander Flap

- 1/2 - 2/3 of upper or lower lip
- Commissure involved

**FIGURE 6.** Estlander cross lip flap. (A) “V”-shaped incision diagramed around lower lip lesion and proposed upper lip flap outlined. (B) Lesion removed, flap rotated and sutured into defect. Flap is designed with height 1 to 2 mm greater than defect to be reconstructed.
Modified Burrow Technique

- 2/3 of upper lip, midline defect
- Adequate adjacent cheek tissue
Modified Burrow Technique

- 2/3 of upper lip, midline defect
- Adequate adjacent cheek tissue
Modified Burrow Technique

- Mild microstomia
- Loss of cupid’s bow
Thanks!

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