Stomal Recurrence

Mathew Mbao

Tygerberg Hospital
Definition

- Stomal recurrence is a diffuse infiltrate of neoplastic tissue at the junction of the amputated trachea and skin.
Incidence

- 2.5 – 15%
- M:F 93:7
- 98% of stomal recurrence present within 2 years of initial treatment
- Pathogenesis still unknown
Prognosis

- Poor with death in 2 years
  1) Progressive tracheostomal obstruction
  2) Hemorrhage caused by erosion of major vessels

- Thus focus on prevention and identification of risk factors!!!
Classification (Sisson et al. 1976)

- **Type I** – Localized + discrete nodule in superior ½ of stoma without esophagus involvement.
- **Type II** – Tumor involve superior ½ of stoma and esophageal involvement.
- **Type III** – Tumor inferior ½ of stoma and direct extension into mediastinum.
- **Type IV** – Extension laterally and often under either of clavicles.
Risk Factors

- Advanced T stage (T4/↑ size)
- Advanced N stage (Pre-/Paratracheal LN)
- Subglottic involvement
- Pre-operative tracheostomy
- Failed post-operative radiation
Advanced T stage

• Increased size of tumor more likely for stomal recurrence

• Rubin et al 1990- T1 -0%, T2 -2%, T3 -2.9%, T4 -8.6%

• Yotakis et al 1996- T1 -0%, T2 -2.3%, T3-4.1%, T4 -15.3%

• Statistically significance of T4 lesions →due to longer time to metastasize + subglottic spread
Advanced N Stage

• Involvement of paratracheal lymphatics

• Welsh et al.-radioactive tracers to detect lymphatic drainage

  1) Sparest on anterior commissure

  2) To arytenoids follow lymphatics of supraglottis

  3) Subglottis 96% involve paratracheal LN
Continue

• Harris + Butler – Clinically undetectable paratracheal LN metastasis → 50% were +
• Weber et al – Subglottic SCCa found 52% (15/29) paratracheal LN metastasis in absence of cervical metastasis
• Harrison et al - 65% of subglottic Ca with paratracheal LN metastasis. Include removal of upper part of manubrium (allow clearance of LN) and low tracheotomy → no stomal recurrence found
Subglottic involvement/location of tumor

- Proximity of subglottis to tracheostoma is an important risk factor.
- Secondary tumor 18% vs Primary tumor 3.2%.
- Subglottic tumors are prone to extensive circumferential growth and cartilage invasion.
Rubin et al – 1) Presence of tumor in subglottis most important factor of recurrence

2) Recurrence rate * Subglottis 14%,
* Epiglottis 0.6% * Aryepiglottic fold 1.3%
* Glottis 0.8%
Pre-operative tracheotomy

- Seeding into trachea and peristomal soft tissue with tracheostomy
- Keim et al 1965 – pre-operative tracheotomy recurrence -41% (9/22pts)
  - Without tracheotomy -6.1% (4/22pts)
- Rubin et al 1990 -444 pts no difference of recurrence with *tracheotomy 30.7%, *without tracheotomy 24.2%
Emergency laryngectomy to prevent stomal recurrence

- Griebie et al. 1987 - 16 patients with one recurrence. EUA with frozen section biopsies then laryngectomy same time

- Wickham et al. 1990 - 13 patients with no stoma recurrence
Seeding through endotracheal intubation

- Malignant cells transferred from laryngeal lesion to trachea via intubation
- Ormerod et al 1953 - endotracheal intubation implanted cells via tube
- Dejong et al 1998 - 51 pts tracheostomy under LA at start of laryngectomy-1 recurrence
  - 63 pts with ET intubation- 1 recurrence

*Tumor implantation cannot be discounted!!!
Efforts to prevent stomal recurrence

- Post-operative radiation to the stoma
- Paratracheal LN dissection in all laryngeal cancers with subglottic extension
Post-operative radiation

- Criteria
  1) Extensive primary lesion
  2) Subglottic extension
  3) Inadequate margins
  4) Paratracheal LN involvement
  5) Perineural/venous invasion of tumor
  6) Pre-operative tracheotomy
• Weber et al 1993- 6/76 pts with recurrence and no post-operative radiation
  -0/65 pts with recurrence + post-op RoRx

• Tong et al 1977-0/22pts with post-op stomal radiation with recurrence
  -2/4 pts stomal recurrence with no stomal radiation post-operative
Management of stomal recurrence

- Primarily surgical treatment (only curative treatment)
- Radiation treatment provide palliation + is ineffective if used as a single agent
- Combinations of radiation and chemotherapy with encouraging early results in small groups—Snow et al 1986 (Need further studies)
Surgical Treatment

- Watson first described technique in 1942 and modified by Sisson in 1977
- Extensive removal of tracheostoma, surrounding skin, mediastinal dissection with removal of manubrium + clavicle heads + resection of involved pharyngo-esophageal segments with reconstruction using various flaps
Continue

- Peri-operative mortality 15% - mediastinitis and rupture of great vessels
- Gluckman et al 1987 - 41 pts surgical Rx
  * Type I+II (Sisson) - 45% survive 2yrs
  * Type III+IV - 9% survive 2yrs + pre-op mortality high
  * Average hospital stay 30 days
  * 17/41 N diet, 6/41 soft diet, 11/41 gastrostomy
Finally

• No surgery on stomal recurrence the average survival 6.3 months with an extremely poor quality of life!!!
The End

Thank you