Stomal Recurrence

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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

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- 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 invovement/location of tumor

- Proximity of subglottis to tracheostoma is important risk factor
- Secondary tumour 18% vs Primary tumor 3,2%
- Subglottic tumors are prone to extensive circumferential growth and cartilage invasion

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- 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 periostomal 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 ssubglottic 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

Continue

- 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

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- 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