

# CANCER EDUCATION DAY

## **Toxicities of Head & Neck Radiotherapy**

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# Presenter Disclosure

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# Background - Radiotherapy for HN Malignancies

- The current standard of care for many head and neck cancers include radiotherapy as definitive or adjuvant treatment
- Radiotherapy treatment can cause significant oral toxicities that affect mouthfeel and swallowing which in turn affect nutrition, quality of life and may be so severe it interrupts treatment
- Long term side-effects are common which require lifestyle changes and proactivity

# Background - Radiotherapy for HN Malignancies

- Acute side-effects usually start immediately but become noticeable within a couple weeks
- These toxicities usually peak about 1-2 weeks post radiotherapy
- Most acute toxicities will improve/disappear as time goes on (4-6 weeks+ post RT)
- Long term side effects can be residual acute toxicities or can start after radiotherapy ends

# Acute - Fatigue

- Occur in majority of patients
- Time

# Acute – Oral Mucositis

- Erythema, edema and ulceration of the oral mucosa
- Baking soda + salt rinses
- Topical analgesia
- Systemic analgesia
- “Magic mouthwash”
- Probiotics (*Streptococcus salivarius* K12)



# Acute – Radiation Dermatitis

- Erythema, edema, ulceration of the skin
- Theoretical bolus effect of creams
  - Keep neck bare during radiotherapy
- Glaxal/Lubriderm base
- Baking soda/saline compresses
- Barrier Creams (Baza/Proshield)
- Polysporin
- Flamazine



Zenda et al, 2015

# Acute – Oral Thrush

- Radiotherapy affects the microflora of the mouth which allows opportunistic fungal infection
- “Magic Mouthwash” for prevention
- Nystatin for Thrush



Healthline, 2023

# Acute/Chronic – Xerostomia/Dysgeusia/Secretions

- Dry mouth/throat, taste dysfunction, increased secretions
- Dietetic support
- Effervescent drinks (low sugar)
- Hydration, Hydration, Hydration!
- Xylimelts/Biotene Spray
- Time
- Muscarinic receptor agonist (Pilocarpine)
- Hydration

# Acute/Chronic – Dysphagia/Odynophagia/Poor Intake

- Secondary to the above toxicities and radiation related inflammation/fibrosis
- In addition to previous recommendations
  - Supplementary nutrition
  - SPN/TPN
  - Feeding tube

# Acute/Chronic – Hoarseness of Voice/Laryngeal Dysfunction

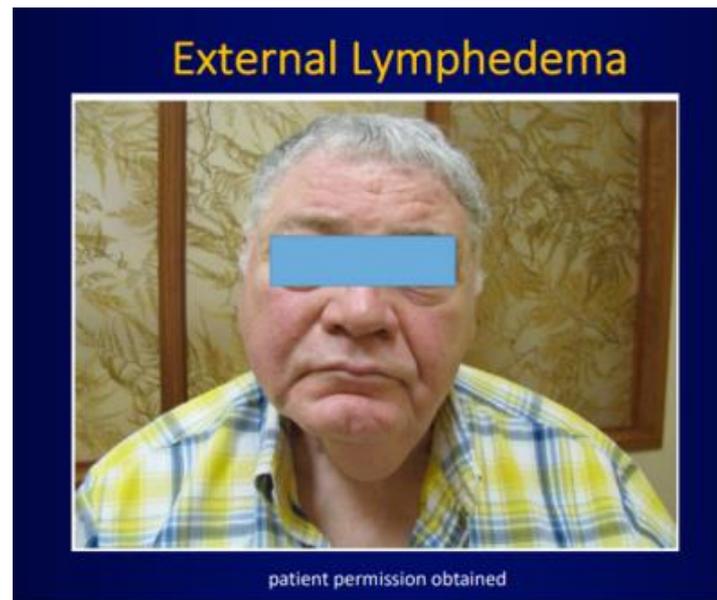
- Usually related to laryngeal cancer or RT dose
- SLP assistance
- ENT/Head and Neck Surgery

# Chronic – Neck Fibrosis/Trismus

- If receiving nodal irradiation/radiotherapy to muscles of mastication
- Reduced range of motion of the neck/mouth, neck stiffness, reduced ability to open mouth/chew
- Home exercises
- Physiotherapy
- Massage

# Chronic - Lymphedema

- Disruption of lymphatic channels causing chronic swelling of the neck
  - Higher chance if patient received neck dissection
- Lymphatic massage
- Compression



Oncology Nursing Society, 2022

# Chronic - Dental

- Radiotherapy dose as well as xerostomia
  - Saliva has a protective effect on the teeth
- Dental fluoride trays
- Regular dental care



Soutome et al. 2020

# Chronic – Osteoradionecrosis of the Mandible

- Exposed irradiated bone that fails to heal over a period of 3 months without disease recurrence (Chronopoulos et al 2020)
- Dental care PRIOR to radiotherapy
- Hyperbaric oxygen
- Pentoxifylline + Tocopherol (PENTOCLO)
- Surgical management



Singh et al. 2022

# Chronic – Hypothyroid

- Radiation dose to the thyroid
- Regular thyroid function testing

# Chronic – Risk of Second Malignancy

- Rare
- Occurs years post radiotherapy (10/20+ years)

# Question & Answer