Sparing Bilateral IB in Node Positive Oropharyngeal Carcinoma Improves Xerostomia Outcomes

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Background/Purpose

- Radiation therapy is important in the treatment of head and neck cancers.
- Most common side effect is poor salivary function (xerostomia).
- Intensity modulated radiotherapy (IMRT) allows for sparing of healthy tissue.
- This study evaluates whether treatment sparing of the submandibular glands (neck level IB) can result in better salivary function.
Materials/Methods

• 125 patients with OPC received chemoradiation

• May 2010 – December 2011

• Sparing (n=40); without sparing (n=85)

• Salivary toxicity assessment
  o Self-reported (previously validated questionnaire)
  o Observer rated (physician assessment)

• Dosimetric analysis of the salivary glands
Salivary Function and Radiation Doses

Patient-reported

Good:
- 0
- 20
- 40
- 60
- 80
- 100

Poor:

P = 0.021

Observer-rated

Improvement to 1.4 from 1.7 (p = 0.005)

Average radiation dose to salivary organs

Oral cavity 36.1 Gy <= 45.2 Gy

SMG 1
- 45.0
- 56.2
- 63.9
- 70.5

SMG 2

Excellent 2-year local-regional control of over 90%
Conclusions

- Sparing salivary structures (submandibular glands) in oropharyngeal cancer improved quality of life in patients by decreasing dry mouth.
- Sparing these structures was safe and did not compromise disease outcomes (loco-regional control).