The Management of Head and Neck Cancers
With Dr. Lin

Learning Objectives:
1. To understand the changing demographics of oropharynx cancer, and the impact of human papillomavirus on overall survival and the patterns of relapse in patients with oropharynx cancer.
2. To understand the standard surgical approach to early-stage oral cavity cancer.
3. To understand the indications for postoperative chemoradiation for head and neck cancer.
4. To understand current standard of care approach to locally-advanced nasopharynx cancer.
5. To understand the indications and options for larynx preservation in patients with locally-advanced larynx cancer.

Question 1:
For patients with HPV-positive, advanced-stage disease who receive curative-intent therapy, which patients are at highest risk of disease recurrence, and what is the predominant form of disease recurrence?
   a) Advanced T-stage and N-stage, locoregional recurrence
   b) Advanced T-stage, systemic recurrence
   c) Advanced T-stage and N-stage, systemic recurrence
   d) Advanced N-stage, locoregional recurrence

Answer: C

Feedback:
In patients with HPV-positive oropharynx cancer treated with definitive intent radiotherapy, bulky disease (either T4 or N3) places patients into the high-risk category. For these patients, the 3-year outcomes are 76% for distant control and 82% for locoregional control. This is contrasted against much higher rates 93% distant control and 95% locoregional control for patients who fall into the low-risk category (T1-3, N0-N2c).

Reference:
Question 2:
In a patient diagnosed with an early-stage oral cavity squamous cell carcinoma, the optimal course of initial treatment would consist of:

a) Radiotherapy alone
b) Surgery for the primary site alone (omitting neck dissection)
c) Surgery for the primary site alone, followed by radiotherapy to the neck
d) Surgery for the primary site + neck dissection

Answer:
D

Feedback:
For oral cavity cancers, the treatment of choice is for an upfront surgical approach. Definitive radiotherapy is reserved only for cases that are surgically unresectable and/or patients who are medically inoperable. The optimal surgery is for resection of the primary site as well upfront elective neck dissection, which has been demonstrated to yield superior disease-free and overall survival when compared to surgery to the primary site alone and performing neck dissection only at the time of recurrence for purposes of salvage.

Reference:

--- End of Question 2 ---
Question 3:
A 49-year-old Caucasian female is diagnosed with a clinical stage 3, T1N2M0, keratinizing squamous cell carcinoma of the nasopharynx. What is the optimal treatment for her stage and diagnosis?

a) Radiotherapy alone
b) Concurrent chemoradiation, omitting adjuvant chemotherapy
c) Sequential therapy, with radiotherapy alone followed by adjuvant chemotherapy
d) Concurrent chemoradiation, with adjuvant chemotherapy

Answer:
D

Feedback:
The results of the randomized intergroup 0099 study, as well as multiple randomized trials from Asia all confirm a survival benefit of concurrent chemoradiation to RT alone. The Intergroup study treated with concurrent chemoradiation, followed by adjuvant chemotherapy, and this regimen remains the standard of care in a non-endemic population. A recent randomised study did not show a statistically significant benefit to the addition of chemotherapy, but this trial was performed in an endemic population, and may not apply to a non-endemic population.

Reference:

--- End of Question 3 ---
Question 4:
A 60-year-old male with a 40 pack-year smoking history is newly diagnosed with a stage 4a, T3 (fixed vocal cord), N2c (bilateral neck nodes), M0 squamous cell carcinoma of the larynx. He declines upfront surgical therapy, which would require total laryngectomy, and elects organ preservation. Which treatment regimen is optimal for larynx preservation, and constitutes current standard of care for this diagnosis.

a) Altered fractionation radiotherapy alone
b) Concurrent cisplatin and radiotherapy
c) Standard fraction radiotherapy alone
d) Sequential chemotherapy and radiation (induction cisplatin + fluorouracil followed by radiotherapy)

Answer:
B

Feedback:
RTOG 91-11 was a randomized trial of organ preservation for locally-advanced larynx cancer comparing 3 treatments: standard fraction radiotherapy alone versus radiotherapy with concurrent cisplatin versus induction cisplatin + fluorouracil followed by radiotherapy. Both the initial and long-term results demonstrate that concurrent chemoradiotherapy was superior to the other 2 treatment arms with respect to laryngeal preservation.

Reference:

--- End of Question 4 ---
Question 5:
If the patient with larynx cancer described in question 6 was instead diagnosed with T4a disease (disease penetrating through thyroid cartilage), with N2c disease, what would be the optimal treatment approach?

a) Disease is unresectable, and therefore treat with concurrent chemotherapy and radiation, per the RTOG 91-11
b) Disease is resectable, but treat with organ preservation concurrent chemotherapy and radiation, per the RTOG 91-11.
c) Surgery alone
d) Surgery + adjuvant RT (+/- chemotherapy, as clinically indicated)

Answer:
D

Feedback:
T4a disease is technically resectable (T4b is unresectable). The RTOG 91-11 listed T4a disease where disease penetrated through the thyroid cartilage as an exclusion criteria, and therefore, the results of this study supporting concurrent cisplatin and radiotherapy is not therefore applicable to this patient. Surgery alone is not standard of care in this situation, as all patients who underwent total laryngectomy in the VA larynx study were treated with adjuvant RT. The correct answer, therefore, is surgery + adjuvant RT.

Reference: