# BASE OF TONGUE 2019

Case Scenarios

## Clinical Case 1

### History

Patient is a 66 y/o w/f with history of nodular goiter who was being evaluated as part of routine surveillance when a LT level II cervical node measuring 2.5cm’s was noted on neck ultrasound. The lymph node is freely movable. Pt denies feeling any neck fullness or palpable neck mass. Laryngoscopy revealed a 1.5 cm BOT mass with minimal invasion into the palatine tonsil.

### Work-up Imaging

11/21/18: PET/CT=The 2.5 cm LT Level II cervical node detected on ultrasound was identified. A 2nd FDG avid lymph node measuring 1.6cm in the LT neck at Level III is noted. FDG uptake at base of tongue and palatine tonsil (SUV max 17). No other suspicious areas of FDG uptake noted.

### Biopsy/surgery

11/7/18: Core bx of suspicious Level II node= G3 squamous cell carcinoma, negative for p16. HPV in situ hybridization test confirmed patient was negative for viral HPV.

12/6/18: BOT bx= positive for malignancy, squamous cell carcinoma.

Patient opted for concurrent chemotherapy with Cisplatin and RT.

### Radiation Therapy Summary

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Treatment site | Energy | Dose/fx | # of fx | Total dose | Start date | End date |
| BOT/Neck | 6X | 200 | 35/35 | 7,000 | 1/29/19 | 3/19/19 |

IMRT with VMAT delivery was used in this plan. Pt did incredibly well. By week 4, her tumor and neck node were no longer palpable.

### Scenario 1 Worksheet

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | |
| Primary Site |  | MP Rule | | |  | Clinical Grade | |  |
| Histology |  | H Rule | | |  | Pathological Grade | |  |
| Behavior |  |  | | |  | Post Therapy Grade | |  |
|  |  | | | | | | | |
| Stage Data items | | | | | | | | |
| *Clinical Tumor Size* |  | *Pathological Tumor Size* | | |  | Tumor Size Summary | |  |
| AJCC Stage | | | | | | | | |
| Clinical T |  | Pathological T | | |  | Post-therapy T | |  |
| cT Suffix |  | pT Suffix | | |  | pT Suffix | |  |
| Clinical N |  | Pathological N | | |  | Post-therapy N | |  |
| cN Suffix |  | pN Suffix | | |  | pN Suffix | |  |
| Clinical M |  | Pathological M | | |  | Post-therapy M | |  |
| Clinical Stage |  | Pathological Stage | | |  | Post-therapy Stage | |  |
|  | | | | | | |
| Summary Stage 2018 | | |  | | | |
| *EOD Primary Tumor* | | |  | | | |
| *EOD Lymph Regional Nodes* | | |  | | | |
| *EOD Mets* | | |  | | | |
| Regional Nodes Positive | | |  | | | |
| Regional Nodes Examined | | |  | | | |
|  | | |  | | | |
| SSDI’s | | | | | | |
| Extranodal Exten H&N Clin | | | |  | | |
| Extranodal Exten H&N Path | | | |  | | |
| Lymph Nodes Size of Mets | | | |  | | |
| *SEER\_SSF1: SEER Site-Specific Fact 1* | | | |  | | |

### Radiation Therapy Coding

|  |  |
| --- | --- |
| Phase I Radiation | |
| Phase I Primary Treatment Volume |  |
| Phase I to Draining Lymph Nodes |  |
| Phase I Treatment Modality |  |
| Phase I External Beam Planning Technique |  |
| Phase I Dose Per Fraction (cGy) |  |
| Phase I Number of Fractions |  |
| Phase I Total Dose (cGy) |  |
| Phase II Radiation | |
| Phase I1 Primary Treatment Volume |  |
| Phase II to Draining Lymph Nodes |  |
| Phase II Treatment Modality |  |
| Phase II External Beam Planning Technique |  |
| Phase II Dose Per Fraction (cGy) |  |
| Phase II Number of Fractions |  |
| Phase II Total Dose (cGy) |  |
| Phase III Radiation | |
| Phase III Primary Treatment Volume |  |
| Phase III to Draining Lymph Nodes |  |
| Phase III Treatment Modality |  |
| Phase III External Beam Planning Technique |  |
| Phase III Dose Per Fraction (cGy) |  |
| Phase III Number of Fractions |  |
| Phase III Total Dose (cGy) |  |
|  | |
| Date RT Started |  |
| Date RT Ended |  |
| # of Phases of RT to this Volume |  |
| RT Discontinued Early |  |
| Total Dose |  |

# Clinical Case 2

## History

53 y/o w/f with h/o GERD HTN, who presented to her PCP with a palpable neck mass. Pt is non- smoker. Social etoh.

## Work-up Imaging

9/20/18: CT Angio neck= LT level II necrotic enlarged cervical lymph nodes. Mildly irregular hyperemic mucosa of LT tongue base & supraglottic larynx.

10/2/18: PET/CT= Pathologic FDG uptake @ multiple Level II cervical lymph nodes, largest @ 1.6 cm, (SUV max 25), suspicious for biologic tumor activity.

10/5/18: MR neck/face= Necrotic Level II & Level III lymphadenopathy, compatible with metastatic disease. Mild fullness and enhancement at the LT glossopharyngeal fold, involving LT soft palate and superficial base of tongue, 1.3 cm.

## Biopsy/surgery

10/8/18: Lymph node, LT cervical Level II, US-guided FNA= Positive for malignant cells. Poorly differentiated malignant neoplasm, with extensive necrosis.

10/12/18: LT base of tongue= squamous cell carcinoma, poorly differentiated. p16+

## IHC tumor marker results

Positive: p63, CK5/6, CAM 5.2, AE1/3, CK7.

Negative: CK20, TTF-1, CD56, chromogranin, synaptophysin.

Findings support diagnosis of poorly differentiated squamous cell carcinoma.

## Radiation Therapy Treatment Summary

Pt completed RT tx w/ concomitant chemo for Stage II (T1N2M0) SCC of the BOT. For setup, pt was supine on tx table and an Aquaplast mask was made for immobilization. CT-based planning was used to design a VMAT beam arrangement to treat H&N. Tx plan called for 3 arcs: arc 1 from 184 to 176 degrees, arc 2 from 176 to 184 degrees, and arc 3 from 184 to 176 degrees. The CTV-1 included BOT lesion and involved LNs and was tx @ 200 cGy/day to 7000 cGy with the dose delivered at the 94% isodose.

The CTV-2 was the remainder of the upper and mid-neck nodes, and treated at 180 cGy/day to 6300 cGy. The CTV-3 encompassed bilateral low neck and supraclavicular nodes, and was treated at 160 cGy /day to 5600 cGy. Daily cone beam CT was done prior to tx to confirm setup. Pt also received concomitant chemo with Cisplatin.

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| --- | --- | --- | --- | --- | --- | --- |
| Treatment site | Energy | Dose/fx | # of fx | Total dose (cGy) | Start date | End date |
| CTV-1- BOT/LNs | 6X | 200 | 35/35 | 7,000 | 10/22/18 | 12/14/18 |
| CTV-2-Upper/Mid Neck LNs | 6X | 180 | 35/35 | 6,300 | 10/22/18 | 12/14/18 |
| CTV-3-Bilat low neck/SCV | 6X | 160 | 3/35 | 5,600 | 10/22/18 | 12/14/18 |

### Scenario 2 Worksheet

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | |
| Primary Site |  | MP Rule | | |  | Clinical Grade | |  |
| Histology |  | H Rule | | |  | Pathological Grade | |  |
| Behavior |  |  | | |  | Post Therapy Grade | |  |
|  |  | | | | | | | |
| Stage Data items | | | | | | | | |
| *Clinical Tumor Size* |  | *Pathological Tumor Size* | | |  | Tumor Size Summary | |  |
| AJCC Stage | | | | | | | | |
| Clinical T |  | Pathological T | | |  | Post-therapy T | |  |
| cT Suffix |  | pT Suffix | | |  | pT Suffix | |  |
| Clinical N |  | Pathological N | | |  | Post-therapy N | |  |
| cN Suffix |  | pN Suffix | | |  | pN Suffix | |  |
| Clinical M |  | Pathological M | | |  | Post-therapy M | |  |
| Clinical Stage |  | Pathological Stage | | |  | Post-therapy Stage | |  |
|  | | | | | | |
| Summary Stage 2018 | | |  | | | |
| *EOD Primary Tumor* | | |  | | | |
| *EOD Lymph Regional Nodes* | | |  | | | |
| *EOD Mets* | | |  | | | |
| Regional Nodes Positive | | |  | | | |
| Regional Nodes Examined | | |  | | | |
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| SSDI’s | | | | | | |
| Extranodal Exten H&N Clin | | | |  | | |
| Extranodal Exten H&N Path | | | |  | | |
| Lymph Nodes Size of Mets | | | |  | | |
| *SEER\_SSF1: SEER Site-Specific Fact 1* | | | |  | | |

### Radiation Therapy Coding

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| Phase I Radiation | |
| Phase I Primary Treatment Volume |  |
| Phase I to Draining Lymph Nodes |  |
| Phase I Treatment Modality |  |
| Phase I External Beam Planning Technique |  |
| Phase I Dose Per Fraction (cGy) |  |
| Phase I Number of Fractions |  |
| Phase I Total Dose (cGy) |  |
| Phase II Radiation | |
| Phase I1 Primary Treatment Volume |  |
| Phase II to Draining Lymph Nodes |  |
| Phase II Treatment Modality |  |
| Phase II External Beam Planning Technique |  |
| Phase II Dose Per Fraction (cGy) |  |
| Phase II Number of Fractions |  |
| Phase II Total Dose (cGy) |  |
| Phase III Radiation | |
| Phase III Primary Treatment Volume |  |
| Phase III to Draining Lymph Nodes |  |
| Phase III Treatment Modality |  |
| Phase III External Beam Planning Technique |  |
| Phase III Dose Per Fraction (cGy) |  |
| Phase III Number of Fractions |  |
| Phase III Total Dose (cGy) |  |
|  | |
| Date RT Started |  |
| Date RT Ended |  |
| # of Phases of RT to this Volume |  |
| RT Discontinued Early |  |
| Total Dose |  |

# **Clinical Case 3**

67 y/o w/m, who presented to his physician with a palpable left neck mass. Pt is former smoker (20 pk-yr). Social etoh. -fhx.

## Work-up Imaging

1/29/19: CT neck= Heterogeneous mass, 3 cm, centered within left palatine tonsil with subtle extension into the inferior lateral nasopharyngeal wall and involvement of the left vallecula. No contralateral extension. No involvement of piriform sinus. Abnormal left level II (1.8 cm) & suprahyoid left level V lymph nodes (2.8 cm) identified, correlating with palpable abnormality.

1/31/19: MRI neck reveals a 3.5 cm left tonsillar mass with left level V lymphadenopathy.

2/4/19: PET/CT= 1. Hypermetabolic soft tissue mass in left tonsillar fossa, up to 2.4 cm (SUV max 13.5), consistent with a high-grade malignancy. 2. Hypermetabolic left level IIA and necrotic left level IIB lymph nodes, consistent with metastatic lymph node involvement. 3. No other hypermetabolic activity found elsewhere. No evidence for distant metastasis.

## Biopsy/surgery

2/8/19: Cytology report =

1. Left neck level II: suspicious for carcinoma.
2. Left superhyoid level V: suspicious for carcinoma

2/14/19-Surgery: Tonsillectomy with left neck node dissection

Specimen size: 3.5 x 2.6 x 1.2 cm

Tumor site: oropharynx, palatine tonsil

Tumor laterality: left

Tumor focality: single focus

Tumor size: greatest dimension @ 2.1 cm

Tumor extension: mucosal extension to the nasopharyngeal wall

Histologic type: squamous cell carcinoma with papillary and verrucous features

Histologic grade: G2, moderately differentiated

Margins: uninvolved by invasive carcinoma.

Lymphovascular invasion: Not identified

# of lymph nodes examined: 17

# of lymph nodes involved: 2

Level/site of involved nodes: Level IIA

Size of largest involved lymph node: 3.2 cm

Size of largest metastatic tumor focus: 2.8 cm

Extranodal extension: Present. Tumor extends 3mm beyond the nodal capsule

## IHC tumor marker results

Positive: CK5/6, CK7(focally), p40.

Negative: p16.

### Scenario 3 Worksheet

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | |
| Primary Site |  | MP Rule | | |  | Clinical Grade | |  |
| Histology |  | H Rule | | |  | Pathological Grade | |  |
| Behavior |  |  | | |  | Post Therapy Grade | |  |
|  |  | | | | | | | |
| Stage Data items | | | | | | | | |
| *Clinical Tumor Size* | *035* | *Pathological Tumor Size* | | | *021* | Tumor Size Summary | |  |
| AJCC Stage | | | | | | | | |
| Clinical T |  | Pathological T | | |  | Post-therapy T | |  |
| cT Suffix |  | pT Suffix | | |  | pT Suffix | |  |
| Clinical N |  | Pathological N | | |  | Post-therapy N | |  |
| cN Suffix |  | pN Suffix | | |  | pN Suffix | |  |
| Clinical M |  | Pathological M | | |  | Post-therapy M | |  |
| Clinical Stage |  | Pathological Stage | | |  | Post-therapy Stage | |  |
|  | | | | | | |
| Summary Stage 2018 | | |  | | | |
| *EOD Primary Tumor* | | |  | | | |
| *EOD Lymph Regional Nodes* | | |  | | | |
| *EOD Mets* | | |  | | | |
| Regional Nodes Positive | | |  | | | |
| Regional Nodes Examined | | |  | | | |
|  | | |  | | | |
| SSDI’s | | | | | | |
| Extranodal Exten H&N Clin | | | |  | | |
| Extranodal Exten H&N Path | | | |  | | |
| Lymph Nodes Size of Mets | | | |  | | |
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