# 2018 Lung Case Scenarios

## Clinical Scenario 1:

72 y/o white female w/ h/o HTN, Hyperlipidemia, CAD, GERD, who recently presented with productive cough that did not respond to a course of antibiotics, steroids or cough suppressants. Pt has never smoked, no alcohol consumption and no relevant family history.

**Work-up Imaging**

**2/5/18: CXR=** 1.4 cm LUL nodular density of indeterminate etiology

**2/13/18: Chest CT w/o contrast**= 3 cm LUL mass highly suspicious for neoplasm. No pathologically enlarged mediastinal lymph nodes or gross evidence of hilar lymphadenopathy.

**2/16/18: PET/CT**= Ill-defined 3 cm LUL mass demonstrated hypermetabolic activity, SUV max: 5.5 and is suspicious for a neoplastic process. No other hypermetabolic activity.

**Biopsy and Surgery**

**2/19/18: LUL Navigational Bronchial FNA**= No malignant cells observed.

**2/27/18: LUL wedge resection & mediastinal LN dissection**= 3 cm invasive adenocarcinoma, micropapillary predominant (50%), papillary (30%) & acinar (20%).

* Tumor site: LUL
* Histologic grade: 3
* Spread through alveolar spaces: present.
* Visceral pleural invasion: not present.
* LVI: not present.
* Margins: Bronchial, vascular & parenchymal resection lines uninvolved. Distance from closest margin: > 1CM.
* Regional lymph nodes positive: 0
* Regional lymph nodes examined: 4
* Nodal Stations examined: Level 4-7 LN bx: reactive LNs w/ anthracosis.
* Negative for= ALK ROS, EGFR, RET

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| Scenario 1-Lung |
| Primary Site |  | Clinical Grade |  | Tumor Size Clinical |  |
| Histology |  | Pathological Grade |  | Tumor Size Pathological |  |
| Behavior |  | Post Therapy Grade |  | Tumor Size Summary |  |
| MP Rule |  |  |
| H Rule |  |
|  |
| Stage Data items |
| 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 |
| Separate Tumor Nodules |  |
| Visceral and Parietal Pleural Invasion |  |

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| Radiation |
|  | Phase 1 | Phase 2 | Phase 3 |
| Rad Primary Treatment Volume |  |  |  |
| Rad Treatment Modality |  |  |  |
| Radiation to Draining Lymph Nodes |  |  |  |
| Ext Beam Rad Planning Technique |  |  |  |
| Dose per Fraction |  |  |  |
| Number of Fractions |  |  |  |
| Total Dose |  |  |  |
| # of Phases of Rad Tx to this Volume |  |
| Rad Treatment Discontinued Early |  |
| Total Dose |  |
| Reason no Radiation  |  |

## Lung Scenario 2

An 84 year-old white male presents with a history of prostate cancer diagnosed in 2000. The patient is status post radical prostatectomy with no evidence of disease to date. The patient is known to have peripheral neuropathy, atrial fibrillation, congestive heart failure, and now presents with an enlarging RUL lung nodule, which appears to be PET neg. The patient is a former cigar smoker. Still drinks socially and has a positive family history of cancer. His brother died of liver cancer at 48.

KPS= 80.

Height= 6 ft 1 in.

Weight= 210 lb.

On exam, there is no cervical or supraclavicular adenopathy bilaterally. Lungs are clear bilaterally with decreased breath sound in RUL field. HR= 56.

Pt opted for EBRT over surgical intervention.

**Work-up Imaging**

**3/6/18: Chest CT w/o contrast**= Coalescent opacity in the right apex superiomedially reveals further increase in size compared to December 2017 study. It now measures 2.6 cm when it previously measured 1.8 cm. Bilat pleural effusions. These could be cardiogenic. No mediastinal mass or adenopathy.

**3/9/18: PET/CT**= Mild hypermetabolic uptake corresponding to a slowly growing right apical lesion. While nonspecific, possibility of hypometabolic apical lung carcinoma must be considered given its interval growth. SUV max between 1.8-1.9. No other hypermetabolic activity noted.

**Biopsy**

**3/22/18 @ outside facility**: Cytopathology, FNA, RUL Lung= Suspect adenocarcinoma.

*Clinically staged by MD as T1b, N0, M0.*

**Radiation Therapy**

**4/23/18-4/26-18 @ our facility**: RUL lung mass, 10 MVX/IMRT/SBRT, 15 Gy x 4 fx= 60 Gy with use of 7 non-coplanar fields.

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| Scenario 2-Lung |
| Primary Site |  | Clinical Grade |  | Tumor Size Clinical |  |
| Histology |  | Pathological Grade |  | Tumor Size Pathological |  |
| Behavior |  | Post Therapy Grade |  | Tumor Size Summary |  |
| MP Rule |  |  |
| H Rule |  |
|  |
| Stage Data items |
| Clinical T |  | Pathological T |  | Post-therapy T |  |
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| 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 |
| Separate Tumor Nodules |  |
| Visceral and Parietal Pleural Invasion |  |

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| Radiation |
|  | Phase 1 | Phase 2 | Phase 3 |
| Rad Primary Treatment Volume |  |  |  |
| Rad Treatment Modality |  |  |  |
| Radiation to Draining Lymph Nodes |  |  |  |
| Ext Beam Rad Planning Technique |  |  |  |
| Dose per Fraction |  |  |  |
| Number of Fractions |  |  |  |
| Total Dose |  |  |  |
| # of Phases of Rad Tx to this Volume |  |
| Rad Treatment Discontinued Early |  |
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| Reason no Radiation  |  |

## Clinical Scenario 3

Ms X is a very pleasant 71 Y/O W/F, former smoker (30 pk-yr), w/ pmh of Barrett’s esophagus, GERD, HTN, Hyperlipidemia, anxiety, who presents for additional evaluation of persistent LLL lung nodule, which was noted late last year (2017) and has been followed since then. Patient denies SOB, cough and sputum production. No hemoptysis, dyspnea on exertion or pleuritic chest pain.

Patient is currently married and has no children. She is a retired physical therapist. Younger sister was diagnosed with breast cancer @ 56. Pt denies asbestos exposure. BMI= 27.13 (131 lb @ 4 ft, 11 in). Social etoh.

**Work-up Imaging**

**4/2/18 @ outside facility:** CT Chest w/ IV contrst= Mass-like consolidation in post/inf aspect of left lower lobe, measuring 3.2 X 1.4 X 1.9 cm, new compared with prior chest CT. Possibility of bronchogenic carcinoma cannot be excluded. No mediastinal lymphadenopathy observed.

**4/6/18 @ outside facility:** PET/CT= In the chest, there is no axillary, mediastinal or hilar lymphadenopathy. LLL mass-like consolidation described on earlier chest CT demonstrates mild metabolic activity with SUV max 1.7. This density appears decreased in size, measuring approximately 2.4 cm transverse dimension, favoring infectious/inflammatory etiology. Close f/u chest CT recommended.

**6/1/18 @ outside facility**: CT chest = LLL mass-like consolidation, 1.2 cm, not significantly changed since 4/2/18. Despite low level of activity on prior PET/CT, given persistence of this lesion, possibility of malignancy cannot be excluded. Differential dx includes infectious/inflammatory etiologies. Consider biopsy.

**6/5/18 @ outside facility:** LT lower lobe of lung core bx= Adenocarcinoma with mucinous features. Max length on core sample= 1.1 cm.

**Surgery**

**6/19/18 @ outside facility**: LT lower lobe wedge resection & mediastinal LN dissection= A. LLL wedge; 1.5 cm moderately differentiated invasive mucinous adenocarcinoma. LVI-. No visceral pleural invasion. LVI+. B. LLL completion lobectomy; no residual malignancy identified. Bronchial & vascular margins free of tumor. Four peribronchial lymph nodes negative for malignancy (0/4). C. Level 7 & Level 9 LNs negative for malignancy (0/2). 8th Edition AJCC Pathologic stage: pT1c, pN0.

**Note**: Parenchymal margin submitted on frozen section is focally positive on permanent sections.

PD-L1 IHC(LLL)= Tumor Proportion Score= <1%.

**Radiation Therapy**

**7/18/18-7/30/18** **@ our facility**:

LT Lingula: Patient was treated with 10 MV photons/IMRT, SBRT, 6 Gy x 6 fx= 36 Gy, with 5 non-coplanar beams, over a period of 12 days.

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| Histology |  | Pathological Grade |  | Tumor Size Pathological |  |
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