

Lung Cancer eContouring

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Learning Objectives

- Assess mediastinal lymph node and primary tumor contouring
- Evaluate techniques for simulation to aid in accurate target delineation

Case

- 63-year-old patient with CAD s/p stent placement, known ejection fraction of 30%, and 40 pack year smoking history experienced 6 months of progressive dyspnea, worsening most over the past 3 months prompting a Chest CT with PE protocol:
 - Mass-like consolidation within the left lower lobe with occlusion of the left lower lobe bronchus, diffuse bulky mediastinal and hilar lymphadenopathy, small left-sided pleural effusion with nodular pleural thickening, and nodular interstitial thickening within the right lower lobe.
 - An AP window lymph node measures 1.5 cm short axis
 - Conglomerate subcarinal lymphadenopathy measures 2.8 cm short axis
 - Right paratracheal lymph node measures 1.6 cm
 - Right hilar lymph node measures 2.1 cm short axis

Bronchoscopic biopsy of the LLL mass

- Invasive squamous cell carcinoma, moderately differentiated, keratinizing.
- Lymph Node, Fine needle aspiration, Station 7: Negative for malignant cells
- PD-L1 IHC 22C3 pharmDx Result
- Tumor Proportion Score (TPS): 10%
- PD-L1 expression level: TPS >1%

PET/CT scan showed positive (SUV=5-8)

- LLL infrahilar mass, 8.9 cm x 9.5 cm,
- Prevascular LN
- AP window LN
- Subcarinal LN
- R hilar LN
- Precarinal LN
- L hilar LN

Additional Information

- PFTs
 - FEV1: 1.23 L (37% predicted)
 - DLCO 42% predicted
- Deemed not to be a surgical candidate: extent of disease and medical comorbidities

Homework

- GTVn_ASTRO on Slices 84, 91, 97, 110, 112, 114
- GTVp_ASTRO on Slices 131, 136, 141
- IGTVp_ASTRO on Slices 158, 160, 161
- IGTVn_ASTRO on Slices 158, 160, 161
- CTVn_ASTRO on Slices 102, 107, 114
- CTVp_ASTRO on Slices 131, 136, 141