Overview

• Provide key information for lung on
  – Common staging issues and questions
  – Exceptions and cautions for T, N, M
  – Diagnostic procedures vs. treatment
  – Treatment satisfying stage classification criteria
  – Blank vs. X
Learning Objectives

- Analyze common staging issues and questions
- Determine exceptions and cautions for T, N, M
- Distinguish diagnostic procedures vs. treatment
- Identify treatment satisfying stage classification criteria
- Recognize difference between blank vs. X

Lung Staging

Clinical T Category

- Critical to read main and subcategories
  - Information to assign subcategory may reside in main category
  - Example: T2a instructions in T2

- Need to review all categories
  - May meet size of T2 but have invasion of T3 structures
  - Many different criteria involved including size and invasion

- Critical to understand anatomic and disease terms
  - Many different anatomical structures play a role
  - Disease terms such as atelectasis

- TX has two different criteria
Clinical T Category

- No simple answer when more than 1 tumor
- Multiple synchronous tumors
  - Arise independently
  - Usually different cell types or subtypes
  - Stage by largest tumor
  - Must use (m) to indicate multiple tumors
- Separate tumor nodules
  - Primary lesion spreading to other areas in lung
  - Intrapulmonary spread is terminology used
  - Assignment of T or M category depends on location
  - Not multiple tumors so (m) is never used

Clinical N and M Categories

- Caution for interpretation of nodal involvement
  - Imaging or mediastinoscopy reports
  - CANNOT use these descriptive terms
    - Mass
    - Adenopathy
    - Enlargement
- Modern imaging very sensitive
  - Use physician statements
  - Registrars must use critical thinking when reviewing info
  - Many reasons for enlarged nodes, not always cancer
- Critical to assign M subcategories
  - Not used to differentiate stage group
  - Data important to evaluate and change future stage groups

Pathologic T Category

- Clinical T category information used
  - Don’t forget to include, except when disproven by resection
- Important when assigning T category
  - Read all category criteria to choose appropriate
  - Always assign subcategory if possible, be specific
- Must understand anatomical location of tumor and spread
  - Pleural based is not involving pleura
  - Location of main bronchus, lobar bronchus, hilum
- Clarifications in chapter
  - Direct invasion into adjacent ipsilateral lobe not separate nodule
  - Vocal cord paralysis
  - Pancoast tumors
Pathologic T Category

- No simple answer when more than 1 tumor
- May change when more info available from resection
- Multiple synchronous tumors
  - Arise independently
  - Usually different cell types or subtypes
  - Stage by largest tumor
  - Must use (m) to indicate multiple tumors
- Separate tumor nodules
  - Primary lesion spreading to other areas in lung
  - Intrapulmonary spread is terminology used
  - Assignment of T or M category depends on location
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Pathologic N and M Categories

- Include nodal imaging unless disproven on node dissection
  - As long as 1 node microscopically examined meets pN criteria
  - pN includes clinically involved and microscopically proven
- Remember to include biopsied nodes during workup
  - Add biopsied nodes to nodes resected
- Assigning correct cM or pM
  - M1a microscopically proven, M1b on imaging = pM1b
  - Not all mets must be microscopically proven to assign pM
  - No mets microscopically proven is cM for pathologic M category
- Errata for M1b
  - Distant metastasis (in extrathoracic organs)

Criteria for Clinical Classification

- Patient undergoing diagnostic workup
  - Physical exam for lung function, potential supraclavicular nodes
  - History for risk factors
  - Imaging of lung and regional nodes
  - Sputum cytology
  - Bronchoscopy with biopsy and transbronchial needle aspiration
  - Imaging-guided needle biopsies or FNA
  - Thoracentesis
  - Mediastinoscopy
  - Video-assisted thoracic surgery (VATS) and open surgical biopsy
  - Endobronchial or endoscopic ultrasound guided biopsy
  - Navigational bronchoscopy
  - Bx adds time and risk, not always needed for treatment decisions
- Rare incidental findings
Diagnostic vs. Treatment

- **Diagnostic procedures**
  - Sampling of lung tumor
  - Not intended to remove entire tumor
  - Not known if entire tumor is removed at this point
  - Don’t be confused by surgical procedures, such as VATS

- **Surgical treatment of primary site**
  - Resection of lung tumor
  - Extent of resection depends on clinical stage
  - Margin status does not change whether this is treatment
  - If nodal dissection not done, still considered treatment

Treatment Satisfying Stage Classification

- **Pathologic staging**
  - Resection of lung tumor
  - Nodal dissection
    - Sampling from multiple stations as described in chapter
    - Not required to qualify for staging
  - Contraindication for surgery is usually positive mediastinal nodes
    - If surgical resection, must have formal mediastinal node dissection

- **Postneoadjuvant therapy staging**
  - Must meet standard guidelines, such as NCCN or ASCO
  - Indications for neoadjuvant
    - T3 & T4 superior sulcus tumor
    - Limited other T3 & T4 situations
    - Positive mediastinal nodes
  - Definitive concurrent chemoradiation is most common

Blank vs. X

- **Tell patient’s story through staging**

  - **Clinical staging** – story of pt’s diagnosis and workup
    - cTX = physician did not examine patient, no imaging, no staging procedures
    - cTX = sputum or bronchial washings have malignant cells, imaging & bronchoscopy negative
    - cT blank = registrar had no access to information
    - cT blank = no workup for pt, incidental finding at surgical treatment

  - **Pathologic staging** – pt’s story through surgical treatment
    - pTX = someone lost specimen between OR and path dept
    - pT blank = pt didn’t have surgical treatment
    - pT blank = registrar had no access to information
Case Scenario

Diagnostic Workup

- **History/chief complaint**
  - 70 year old male with diabetes mellitus, hypertension, osteoarthritis, shortness of breath

- **Physical exam**
  - No information provided by registrar

- **Imaging**
  - PET/CT: 2.7x2.2cm spiculated RLL lung mass, SUV 9.87 indicates malignancy, no hypermetabolic metastatic disease or adenopathy

- **Procedure**
  - RLL lung bx (no information regarding how performed or findings)

- **Pathology report**
  - Adenocarcinoma, moderately differentiated, RLL lung bx

Clinical Staging Information

- **Physical exam**
  - No information for staging, only SOB may be relevant to diagnosis

- **Imaging**
  - 2.7x2.2cm RLL lung mass
  - No adenopathy

- **Procedure**
  - No staging information

- **Pathology report**
  - No staging information
Clinical Staging Answer & Rationale

- **cT1b**
  - 2.7cm largest dimension on imaging
  - No indication of involvement of other structures in T categories
- **cN0**
  - No involvement of hilar or mediastinal nodes on imaging
- **cM0**
  - No signs or symptoms of mets
- **Stage IA**

Treatment

- **History & physical**
  - 70 year old male with diabetes mellitus, hypertension, osteoarthritis, shortness of breath
  - PET/CT: RLL lung mass, no nodal involvement, tiny nodule RML
- **Operative report**
  - Right lower lobectomy, mediastinal and hilar lymphadenectomy: indurated mass superior segment of RLL, involves visceral pleura, fissure between middle & lower lobe not involved
- **Pathology report**
  - Adenocarcinoma, mod diff, 3 of 5 hilar nodes positive, bronchial and vascular margins negative, tumor extends onto visceral pleura; level 9, 7, 8, 12, 4: all benign lymphoid tissue.

Pathologic Staging Information

- **Surgery**
  - Patient had surgical resection qualifying for pathologic staging
- **Clinical staging information**
  - cT1b cN0 cM0
- **Operative report**
  - Involves visceral pleura
- **Pathology report**
  - No tumor size documented by registrar
  - Visceral pleural involvement
  - Conflicting statements on nodes
  - 3/5 hilar nodes involved
  - List of nodes shows 5 nodes negative
  - List of node levels has 3 mediastinal and maybe 2 hilar
  - Doubt level 4 nodes, maybe level 14?
Pathologic Staging Answer & Rationale

- **pT2a**
  - Used 2.7cm imaging tumor size since path report size is missing
  - Extends to surface of visceral pleura

- **pN1**
  - Hilr nodes involved
  - Mediastinal nodes not involved

- **cM0**
  - No signs or symptoms of mets

- Stage IIA

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Information and Questions on AJCC Staging

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Stage Classifications

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AJCC Web site

- https://cancerstaging.org
- Cancer Staging Education Registrar menu includes
  - Timing is Everything – Stage Classifications
  - Critical Clarifications for Registrars
  - Disease Site Webinars
    - 5 sites: melanoma, lung, breast, prostate, colorectum
  - AJCC Curriculum for Registrars
    - 4 free self-study modules of increasing difficulty on staging rules
      - Each module consists of 7 lessons, including recorded webinar with quizzes
  - Presentations
    - Self-study or group lecture materials, including blank vs. X

AJCC Web site

- https://cancerstaging.org
- Cancer Staging Education Physician menu includes
  - Articles
    - 18 articles on AJCC 7th edition staging in various medical journals
  - Webinars
    - 14 free webinars on 7th edition staging rules and some disease sites
- Cancer Staging Education General menu includes
  - Staging Moments
    - 15 case-based presentations in cancer conference format to promote accurate staging with answers and rationales

AJCC Cancer Staging Manual and Atlas

Order at http://cancerstaging.net

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Summary

• Employ critical thinking to understand disease site
  – Analyze common staging issues affecting stage assignment
  – Determine exceptions and cautions for T, N, M
  – Utilize guidelines available to registrars

• Tell patient’s story through accurate staging
  – Utilize correct stage classifications
  – Distinguish diagnostic procedures vs. treatment
  – Identify treatment satisfying stage classification criteria
  – Recognize difference in story between blank vs. X

• Identify resources for AJCC staging
Thank you

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