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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
  – Not multiple tumors so (m) is **never** used
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**
  - Hilar nodes involved
  - Mediastinal nodes not involved

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

- **Stage IIA**
Information and Questions on AJCC Staging
Stage Classifications

Pathologic – p

Clinical - c

Date of Diagnosis

Diagnostic Workup – phy exam, imaging, bx

Clinical - c

Surgical Treatment

Pathology Report

Systemic or Radiation Therapy

Evaluation by imaging & physical exam

Surgical Treatment

Pathology Report

Posttherapy - yc

Posttherapy - yp
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 modules 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 7\textsuperscript{th} edition staging in various medical journals
  – Webinars
    • 14 free webinars on 7\textsuperscript{th} 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
CAnswer Forum

• Submit questions to AJCC Forum
  – Located within CAnswer Forum
  – Provides information for all
  – Allows tracking for educational purposes

• http://cancerbulletin.facs.org/forums/
Summary
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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