Understanding the New Staging System for Lung Cancer

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Outline

- Overview of staging
- 8th edition of the lung cancer staging system
  - T, N, M
- Lung cancer with multiple pulmonary sites of involvement
References for the 8th Edition of the TNM Classification for Lung Cancer

1. TNM classification provides a common anatomic language
   - T: description of the extent of the primary site
   - N: description of the highest level of nodal involvement
   - M: description of involvement of distant sites
2. Provides a first pass grouping of patients with similar prognosis
   - Heterogeneous disease patterns may be grouped together
     - eg. T4>7 cmN0M0 and T1aN2M0 are both Stage IIIA
     - Stage IIIA has 15 TNM groupings
   - Identifies groups of patients with similar prognosis, for the purpose of patient discussions and for clinical trials
3. Accurate staging leads to better outcomes

Why do we stage cancers?
Overall survival by clinical stage, 7th and 8th edition staging systems
T (Tumor) Descriptor Definitions: 8th edition staging system

- Subclassification of T1
  - T1: T1a \( \leq 1 \) cm; T1b 1.1 – 2 cm; T1c 2.1 – 3 cm
- Subclassification of T2
  - T2: T2a 3.1 – 4 cm, T2b 4.1 – 5 cm
- Classification of tumors > 5 cm
  - T3: tumors 5.1 – 7 cm
  - T4: tumors > 7 cm
- Endobronchial involvement of a main bronchus without invasion of carina is T2, regardless of distance from carina
- Endobronchial invasion of the carina, diaphragm, mediastinum are T4
Survival based on T descriptor category

TABLE 7. Survival Comparisons of Pathologically Staged Tumors According to the T Categories of the 7th Edition and to the Proposed T Categories for the 8th Edition

Rami-Porta, Ramon et al. Journal of Thoracic Oncology. 10(7):990-1003, July 2015.DOI: 10.1097/JTO.0000000000000559

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>T1a vs T1b</td>
<td>1.3585</td>
<td>1.4899</td>
</tr>
<tr>
<td>T1b vs T2a</td>
<td>1.4292</td>
<td>1.2767</td>
</tr>
<tr>
<td>T2a vs T2b</td>
<td>1.2520</td>
<td>1.3647</td>
</tr>
<tr>
<td>T2b vs T3</td>
<td>1.4496</td>
<td>1.2218</td>
</tr>
<tr>
<td>T3 vs T4</td>
<td>1.0045</td>
<td>1.2895</td>
</tr>
</tbody>
</table>

Contrast            | Estimate | p   | Estimate | p   |
---------------------|----------|-----|----------|-----|
T1a vs T1b          | 1.3585   | < 0.0001 | 1.4899   | < 0.0001 |
T1b vs T2a          | 1.4292   | < 0.0001 | 1.2767   | < 0.0001 |
T2a vs T2b          | 1.2520   | < 0.0001 | 1.3647   | < 0.0001 |
T2b vs T3           | 1.4496   | < 0.0001 | 1.2218   | 0.0001  |
T3 vs T4            | 1.0045   | 0.9747 | 1.2895   | < 0.0001 |

T3 vs T4            | 1.2997   | < 0.0001 |
Question 1

A 64 year old woman with a 40 pack-year history of smoking has been undergoing lung cancer screening. Last year her screening low dose chest CT (LDCT) showed several subsolid nodules measuring 6-10 mm. This year the LDCT this year demonstrates that the nodules are unchanged except for a right upper lobe nodule that now measures 1.4 cm with a 6 mm solid component. The patient is asymptomatic. The LDCT showed no hilar or mediastinal adenopathy or any other abnormalities.

Assuming this is lung cancer, what is the correct clinical stage?

1. T1aN0M0
2. T1bN0M0
3. T1cN0M0
Question 1

A 64 year old woman with a 40 pack-year history of smoking has been undergoing lung cancer screening. Last year her screening low dose chest CT (LDCT) showed several subsolid nodules measuring 6-10 mm. This year the LDCT this year demonstrates that the nodules are unchanged except for a right upper lobe nodule that now measures 1.4 cm with a 6 mm solid component. The patient is asymptomatic. The LDCT showed no hilar or mediastinal adenopathy or any other abnormalities.

Assuming this is lung cancer, what is the correct clinical stage?

1. T1aN0M0
2. T1bN0M0
3. T1cN0M0
T (Tumor) Descriptor Definitions: 8th edition staging system

- For subsolid (lepidic) lesions, the radiographic (clinical stage) and pathologic T designation should be based on the solid or invasive component only

1.4 cm subsolid, mixed density nodule in right middle lobe

4 mm solid component: T1a
Question 2

A 60 year old man with COPD and a 70 pack-year smoking history, is being evaluated because a chest CT scan demonstrates a 3.1 cm spiculated nodule in the right lower lobe and enlarged lymph nodes in the right hilum and subcarinal space. PET scan shows intense FDG uptake in the nodule and the enlarged nodes, but in no other sites. You are very concerned about the likelihood of lung cancer. Based on the information available, you identify the T designation as T2a. What is the correct N designation?

A. N1
B. N2
C. N3
A 60 year old man with COPD and a 70 pack-year smoking history, is being evaluated because a chest CT scan demonstrates a 3.1 cm spiculated nodule in the right lower lobe and enlarged lymph nodes in the right hilum and subcarinal space. PET scan shows intense FDG uptake in the nodule and the enlarged nodes, but in no other sites. You are very concerned about the likelihood of lung cancer. Based on the information available, you identify the T designation as T2a. What is the correct N designation?

A. N1  
B. N2  
C. N3
N (Nodal) Descriptor Definitions: 8th Edition staging system

7th Edition N descriptors maintained, still discriminate well

- **N0**: No regional lymph nodes involved
- **N1**: Ipsilateral hilar, peribronchial or intrapulmonary nodes involved, including direct extension
- **N2**: Ipsilateral mediastinal nodes involved
- **N3**: Contralateral mediastinal nodes involved or supraclavicular nodes involved

N Descriptor

Clinical Stage
(T-any M0)
38,910 patients

Pathologic Stage
(T-any M0 R-any)
26,436 patients

The IASLC Lymph Node Map

New supraclavicular zone (N3)
Shift of the anatomic midline to the left paratracheal border
Subcarinal zone expanded

Slide courtesy Frank Detterbeck
M (metastasis) descriptor definition: 8th edition staging system

Changes in 8th Edition: Oligometastatic disease identified as a distinct category

M0  No distant metastasis
M1a  Malignant pleural/pericardial effusion or pleural/pericardial nodules
M1b  Single extrathoracic metastasis
M1c  Multiple extrathoracic metastases (1 or >1 organ)

What is the definition of “oligometastatic”?

Uniform definition of “oligometastatic” is lacking

- IASLC definition for the 8th edition of the staging system:
  - One organ, one site of metastasis
- Literature:
  - One organ, \( \geq \) one site of metastasis that is locally controllable
  - More than one organ, \( \geq \) one site of metastasis, with all sites of disease locally controllable
- Recommendation:
  - Use 8th Edition definition for formal staging
  - For an individual patient with more than one site of distant disease that appears locally controllable, discuss management at tumor board
Limitations of the lung cancer staging system

- The TNM system relies solely on anatomy
  - No incorporation of molecular or biomarker information
- IALSC database is not representative of all populations
- Prognosis is for the population, not for the individual
- Staging is not an algorithm for treatment
  - Treatment decisions must consider many factors (patient-, tumor-, treatment-related)
  - Treatment should still be with proven interventions for extent of disease
    - Example: 7.1 cm Squamous cell carcinoma RLL; EBUS: all mediastinal/hilar nodes negative
      - 7th edition: T3N0M0, Stage IIB
      - 8th edition: T4N0M0, Stage IIIA
TNM Stage Groupings: 8th edition lung cancer staging system

<table>
<thead>
<tr>
<th>T/M</th>
<th>Label</th>
<th>N0</th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>T1a ≤1</td>
<td>IA1</td>
<td>IIB</td>
<td>IIIA</td>
<td>IIIB</td>
</tr>
<tr>
<td></td>
<td>T1b &gt;1-2</td>
<td>IA2</td>
<td>IIB</td>
<td>IIIA</td>
<td>IIIB</td>
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<tr>
<td></td>
<td>T1c &gt;2-3</td>
<td>IA3</td>
<td>IIB</td>
<td>IIIA</td>
<td>IIIB</td>
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<tr>
<td>T2</td>
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<td>IIB</td>
<td>IIB</td>
<td>IIIA</td>
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<tr>
<td></td>
<td>T2a &gt;3-4</td>
<td>IIB</td>
<td>IIB</td>
<td>IIIA</td>
<td>IIIB</td>
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<tr>
<td></td>
<td>T2b &gt;4-5</td>
<td>IIA</td>
<td>IIB</td>
<td>IIIA</td>
<td>IIIB</td>
</tr>
<tr>
<td>T3</td>
<td>T3 &gt;5-7</td>
<td>IIB</td>
<td>IIIA</td>
<td>IIIB</td>
<td>IIIC</td>
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<tr>
<td></td>
<td>T3 Inv</td>
<td>IIB</td>
<td>IIIA</td>
<td>IIIB</td>
<td>IIIC</td>
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<td>T3 Satell</td>
<td>IIB</td>
<td>IIIA</td>
<td>IIIB</td>
<td>IIIC</td>
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<tr>
<td>T4</td>
<td>T4 &gt;7</td>
<td>IIIA</td>
<td>IIIA</td>
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<td>T4 Ipsi Nod</td>
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<td>IIIA</td>
<td>IIIB</td>
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<td>M1a Contr Nod</td>
<td>IVA</td>
<td>IVA</td>
<td>IVA</td>
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<td></td>
<td>M1a Pl Dissem</td>
<td>IVA</td>
<td>IVA</td>
<td>IVA</td>
<td>IVA</td>
</tr>
<tr>
<td></td>
<td>M1b Single</td>
<td>IVA</td>
<td>IVA</td>
<td>IVA</td>
<td>IVA</td>
</tr>
<tr>
<td></td>
<td>M1c Multi</td>
<td>IVB</td>
<td>IVB</td>
<td>IVB</td>
<td>IVB</td>
</tr>
</tbody>
</table>

Detterbeck et al. Chest 2017;151:193-203
8th Edition of the TNM Staging Classification:
Lung Cancers with Multiple Pulmonary Sites of Involvement

References


Consider the patient with multiple pulmonary sites of lung cancer:

1. Synchronous primary lung cancers
2. Separate tumor nodules (intrapulmonary metastasis)
3. Multifocal lung cancer
4. Pneumonic-type lung cancer

How do we distinguish between these cancers? Why does it matter?
Synchronous Primary Lung Cancers vs. Separate Tumor NODULES

78 year old woman, former 40 pk-yr smoker, had a CXR performed pre-op shoulder surgery. She has no pulmonary symptoms, but has a history of mild COPD. CXR identified a left lower lobe nodule.

Chest CT:
- Emphysematous changes
- 2.5 cm spiculated nodule LLL
- 1.4 cm spiculated nodule RUL
- No mediastinal or hilar adenopathy
PET: LLL nodule SUV 9.6
RUL nodule SUV 5.4

What relationship (if any) is there between the two nodules?
Does this patient have synchronous primary lung cancers or one lung cancer with a contralateral tumor nodule?

What is the appropriate clinical stage?

- T1cN0M0 and T1bN0M0 (two primary sites, both Stage I) vs
- T1cN0M1a (index LLL lesion with related RUL intrapulmonary metastasis, Stage IVa)

What is at stake?

- Stage I cancer x 2 vs Stage IV cancer
Question 3

Assuming this patient has lung cancer, what is your assessment of the clinical stage?

A. Synchronous primary lung cancers: T1cNoM0, Stage I and T1bNoM, Stage I

B. One lung cancer, primary in LLL and intrapulmonary metastasis in RUL: T1cNoM1a, Stage IVa
Question 3

Assuming this patient has lung cancer, what is your assessment of the clinical stage?

A. Synchronous primary lung cancers: T1cN0M0, Stage I and T1bN0M, Stage I

B. One lung cancer, primary in LLL and intrapulmonary metastasis in RUL: T1cN0M1a, Stage IVa
How do we distinguish synchronous primary lung cancers from an index lung cancer with intrapulmonary metastasis?

<table>
<thead>
<tr>
<th></th>
<th>Synchronous Primaries</th>
<th>Intrapulmonary metastasis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical</strong></td>
<td>• Absence of clinical features suggesting metastasis</td>
<td>• Clinical features suggesting metastasis</td>
</tr>
<tr>
<td></td>
<td>• Distinct biologic behavior (growth characteristics)</td>
<td>• Similar biologic behavior</td>
</tr>
<tr>
<td><strong>Radiography</strong></td>
<td>• Distinct nodules/masses with features of primary lung cancer (spiculation)</td>
<td>• Convincing index cancer with smaller distinct nodules</td>
</tr>
<tr>
<td></td>
<td>• Absence of nodal or systemic disease</td>
<td>• Presence of nodal or systemic disease</td>
</tr>
<tr>
<td><strong>Pathology</strong></td>
<td>• Distinct histologies (e.g., squamous vs adeno)</td>
<td>• Matching breakpoints identified by comparative genomic hybridization</td>
</tr>
<tr>
<td></td>
<td>• NB: same histology does not EXCLUDE synchronous primaries</td>
<td>• Same histologies</td>
</tr>
<tr>
<td></td>
<td>• Distinct biomarker profiles (KRAS+ vs EGFR+)</td>
<td>• NB: morphologic differences and biomarker variation do not EXCLUDE intrapulmonary metastasis</td>
</tr>
</tbody>
</table>

Lung cancer heterogeneity


- 100 consecutive lung cancers (65 surgical resections and 35 autopsies)
  - 5 pathologists reviewed all slides
  - At least 10 blocks from the primary tumor or the

<table>
<thead>
<tr>
<th>Determination by majority of observers</th>
<th>Homogeneity</th>
<th>Heterogeneity, minor</th>
<th>Heterogeneity, major</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homogeneity</td>
<td>Identification of the same major histologic type on each slide</td>
<td>34%</td>
<td></td>
</tr>
<tr>
<td>Heterogeneity, minor</td>
<td>Presence of same major histologic type but with variation in identification of subtypes</td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>Heterogeneity, major</td>
<td>Presence of more than one major histologic type</td>
<td>45%</td>
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</tbody>
</table>
Figure 1: Reported rates of discordance between primary and metastatic sites of lung cancer for various biomarkers.
## Synchronous primary lung cancers vs lung cancer with intrapulmonary metastasis

<table>
<thead>
<tr>
<th></th>
<th>Synchronous Primaries</th>
<th>Intrapulmonary metastasis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Staging</strong></td>
<td>• Each tumor receives a distinct TNM staging</td>
<td>• Stage all findings as one cancer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intrapulmonary metastasis:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• T3 – same lobe</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• T4 – ipsilateral different lobe</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• M1a – contralateral lung</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>• Manage each cancer separately</td>
<td>• Manage as a single cancer</td>
</tr>
<tr>
<td></td>
<td>• Ideal management of each cancer may have to be tempered by composite management of</td>
<td></td>
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<tr>
<td></td>
<td>both</td>
<td></td>
</tr>
<tr>
<td><strong>Outcomes</strong></td>
<td>• Observed overall survival similar to what would be expected by separate primary</td>
<td>• Projected based on cancer stage</td>
</tr>
<tr>
<td></td>
<td>cancers</td>
<td></td>
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</tbody>
</table>
Synchronous Primary Lung Cancers vs. Separate Tumor Nodule(s) ?

Tumor Board: T1cN0M0 and T1bN0M0, two primary cancers, both Stage I
3. Multifocal lung cancer

60 year old woman, never smoker, presented to ED with chest pain. The chest pain was eventually attributed to GERD. CXR suggested a right upper lobe nodule, and the patient had a follow up chest CT. She is without physical exam findings or complaints.

Chest CT: multiple ground glass nodules, 2 – 18 mm. One subsolid 14 mm nodule in the right middle lobe. No hiliar or mediastinal adenopathy
3. Multifocal lung cancer

| Clinical          | Women, nonsmokers  
|                  | (both sexes, smoking, nonsmoking)  
|                  | Often (usually) asymptomatic  

| Radiography       | Multiple subsolid nodules (pure ground glass or subsolid), at least one of which is suspected or proved to be cancer  

| Pathology         | Adenocarcinoma  
|                  | Multiple foci with variable histologies – atypical adenomatous hyperplasia (AAH), adenocarcinoma in situ (AIS), minimally invasive adenocarcinoma (MIA), lepidic predominant adenocarcinoma (LPA), invasive adenocarcinoma  

Multifocal Lung Cancer
3. Multifocal Lung Cancer

<table>
<thead>
<tr>
<th>Multifocal Lung Cancer</th>
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<tbody>
<tr>
<td><strong>Staging</strong></td>
</tr>
<tr>
<td>• Stage as multiple primary cancers</td>
</tr>
<tr>
<td>• T based on highest T lesion</td>
</tr>
<tr>
<td>• T(#/m) indicates multiplicity</td>
</tr>
<tr>
<td>• Single highest N, M</td>
</tr>
<tr>
<td><strong>Management</strong></td>
</tr>
<tr>
<td>• Manage each site as a separate primary</td>
</tr>
<tr>
<td>• Pure ground glass lesions are likely to be AAH, AIS, MIA – natural history is slow</td>
</tr>
<tr>
<td>• Development of solid component should trigger closer evaluation</td>
</tr>
</tbody>
</table>
3. Multifocal lung cancer

60 year old woman, never smoker, with multifocal lung cancer.

2012 – Right middle lobectomy: 1.2 cm invasive adenocarcinoma; 1.0 cm lepidic predominant adenocarcinoma; 3 sites of minimally invasive adenocarcinoma, several < 5 mm sites of AAH. pT1a(m)NoMo adenocarcinoma

2018 – Doing well and continues to be followed with multiple ground glass nodules
3. Multifocal lung cancer - outcomes

### Table 2. Multifocal Ground Glass/Lepidic Lung Adenocarcinoma

<table>
<thead>
<tr>
<th>First Author</th>
<th>No. Patients</th>
<th>% pN2</th>
<th>% Resected</th>
<th>Location</th>
<th>% Multifocal</th>
<th>% 5-Year Survival</th>
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<tbody>
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<td>Ishikawa</td>
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<td>8</td>
<td>100</td>
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<td>Various</td>
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<tr>
<td><strong>Average</strong></td>
<td><strong>93</strong></td>
<td><strong>11</strong></td>
<td><strong>91</strong></td>
<td><strong>Same L</strong></td>
<td><strong>100</strong></td>
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<tr>
<td>Zell 2006²⁷</td>
<td>93</td>
<td>11</td>
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<td>Same L</td>
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<td>48²</td>
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<td>Zell 2006²⁷</td>
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<td>22⁸</td>
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<td>Bilat L</td>
<td>100</td>
<td>7²</td>
</tr>
</tbody>
</table>

Detterbeck et al JTO 2016; 11:666-680
4. Pneumonic-type Adenocarcinoma

- 62 yo man with mild COPD, 40 pk-yr smoking (quit 25 years ago), several months of cough, fever, and dyspnea and persistent RUL infiltrate on CXR despite several courses of antibiotics.
- Chest CT: 7 cm spiculated, solid mass in RUL without hilar or mediastinal adenopathy
- Bronchoscopy: nondiagnostic
- RULobectomy Feb 2017: 8 cm mucinous adenocarcinoma with lepidic features and multiple “microfoci” of similar cancer, T4N0M0, Stage IIIA.
- Received postop chemotherapy (Cisplatin/Pemetrexed)
Pneumonic-type Adenocarcinoma

- November 2017: Patient with recurrent dry cough.
- Chest CT: more extensive RML infiltrate and several “soft”, <5 mm GGO in RLL and LLL
- Bronchoscopy: biopsies of RML nondiagnostic
- December 2017: Bronchoscopy with cryobiopsies of RML: Adenocarcinoma mucinous type, Station 7 and 11 lymph nodes negative
- Molecular testing negative, PD-L1 < 1%
- Being treated with Nivolumab
## Pneumonic-type lung cancer

<table>
<thead>
<tr>
<th>Clinical</th>
<th>Areas of ground glass and consolidation, may be mistaken for pneumonia</th>
</tr>
</thead>
</table>
| Radiography | Regional areas of ground glass and/or consolidation  
| | Adenopathy is usually absent |
| Pathology | Diffuse, often homogeneous distribution of adenocarcinoma throughout a region of lung  
| | Invasive mucinous adenocarcinoma most common histotype, though nonmucinous and mixed (mucinous and nonmucinous) also observed  
| | Usually lepidic, but other morphologies described |
## 4. Pneumonic-type lung cancer

<table>
<thead>
<tr>
<th>Staging</th>
<th>Pneumonic-type lung cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Stage as a single cancer&lt;br&gt;• T descriptor&lt;br&gt;  • T1 or T2 based on size&lt;br&gt;  • T3 if confined to a single lobe&lt;br&gt;  • T4 if present in a different ipsilateral lobe&lt;br&gt;  • M1a if present in contralateral lobe&lt;br&gt;  • Single highest N, M</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Management</th>
<th>Pneumonic-type lung cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Manage as a single cancer&lt;br&gt;• Lung transplant has been offered in small number of cases (recurrence rate &gt; 50%)</td>
<td></td>
</tr>
</tbody>
</table>
4. Pneumonic-type lung cancer - outcomes

**Table 5. Pneumonic-Type Adenocarcinoma**

<table>
<thead>
<tr>
<th>First Author</th>
<th>No. Patients</th>
<th>Bilateral</th>
<th>N2,3</th>
<th>M1b</th>
<th>Resected</th>
<th>Mucinous</th>
<th>Mixed</th>
<th>Nonmucinous</th>
<th>% 5-Year Overall Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wislez <strong>77</strong></td>
<td>52</td>
<td>58</td>
<td>22</td>
<td>6</td>
<td>38</td>
<td>26</td>
<td>21</td>
<td>53</td>
<td>13 36 -</td>
</tr>
<tr>
<td>Okubo <strong>70</strong></td>
<td>25</td>
<td>40</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>44</td>
<td>12</td>
<td>44</td>
<td>- 40 -</td>
</tr>
<tr>
<td>Regnard <strong>49</strong></td>
<td>21</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>57</td>
<td>14</td>
<td>29</td>
<td>- 27 -</td>
</tr>
<tr>
<td>Dumont <strong>80</strong></td>
<td>12</td>
<td>-</td>
<td>33</td>
<td>0</td>
<td>100</td>
<td>50</td>
<td>-</td>
<td>50</td>
<td>- 25 -</td>
</tr>
<tr>
<td>Ebright <strong>12</strong></td>
<td>7</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>- 27 27</td>
</tr>
<tr>
<td>Casali <strong>48</strong></td>
<td>7</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>100</td>
<td>86</td>
<td>0</td>
<td>14</td>
<td>- 28 -</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td>31</td>
</tr>
</tbody>
</table>

*Detterbeck et al JTO 2016; 11:666-680*
# Lung Cancer with Multiple Pulmonary Sites of Disease

<table>
<thead>
<tr>
<th>Second Primary Lung Cancer</th>
<th>Multifocal GG/L Nodules</th>
<th>Pneumonic-Type Adenocarcinoma</th>
<th>Separate Tumor Nodule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imaging features</td>
<td>Two or more distinct masses with imaging characteristic of lung cancer (e.g., spiculated)</td>
<td>Multiple ground glass or part-solid nodules</td>
<td>Patchy areas of ground glass and consolidation</td>
</tr>
<tr>
<td>Pathologic features</td>
<td>Different histotype or different morphologic features by comprehensive histologic assessment</td>
<td>Adenocarcinomas with prominent lepidic component (typically varying degrees of AIS, MIA, LPA)</td>
<td>Same histologic features throughout (most often invasive mucinous adenocarcinoma)</td>
</tr>
<tr>
<td>TNM classification</td>
<td>Separate cTNM and pTNM for each cancer</td>
<td>T based on highest T lesion with (#/m) indicating multiplicity; single N and M</td>
<td>T based on size or T3 if in single lobe, T4 or M1a if in different ipsilateral or contralateral lobes; single N and M</td>
</tr>
<tr>
<td>Conceptual view</td>
<td>Unrelated tumors</td>
<td>Separate tumors, albeit with similarities</td>
<td>Single tumor, diffuse pulmonary involvement</td>
</tr>
</tbody>
</table>

AIS, adenocarcinoma in situ; c, clinical; GG/L, ground glass/lepidic; LPA, lepidic-predominant adenocarcinoma; MIA, minimally invasive adenocarcinoma; p, pathological; TNM, tumor, node, and metastasis.

*Detterbeck F et al. Chest 2017; 151:193*
Question 4

Which of the following statements is false?

A. Accurate clinical staging leads to better patient outcomes.
B. Clinical staging provides an algorithm for lung cancer treatment.
C. The definition of “oligometastatic” disease in the 8th edition of the staging system refers to one metastasis in one organ.
D. A patient with synchronous primary lung cancers should have each cancer staged separately.
Question 4

Which of the following statements is false?

A. Accurate clinical staging leads to better patient outcomes.
B. Clinical staging provides an algorithm for lung cancer treatment.
C. The definition of “oligometastatic” disease in the 8th edition of the staging system refers to one metastasis in one organ.
D. A patient with synchronous primary lung cancers should have each cancer staged separately.
8th Edition Lung Cancer Staging System

**Take home points**
- T descriptor with multiple reclassifications
- Node map revised
- Oligometastatic disease now with separate M1b designation
- Clarification of staging and clinical distinctions between lung cancers with multiple pulmonary sites of disease