The presentation will begin shortly

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Prepared by:
Decision-Making Steering Committee Speaker Series

Shakun Malik, M.D.

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Lung Cancer

"Challenges for Patients/families and Physicians"

Shakun Malik, MD
Head, Thoracic Cancer Therapeutics
Clinical Investigational Branch
CTEP/DCTD/NCI/NIH
Background

Diagnostic Challenges
  Patients perspective
  Physician perspective

Treatment selection challenges
  Patients perspective
  Physician perspective
Incidence of Advanced-Stage NSCLC

- Lung cancer is the leading cause of cancer deaths
- Most cases (≈70%) are diagnosed in late stages of disease (stage III or IV)
- Approximately 173,770 new US cases of NSCLC expected each year.
Lung Cancer Incidence of major histologic types*

- Adenocarcinoma: 40%
- Squamous cell carcinoma: 30%
- Small-cell carcinoma: 13%
- Large-cell carcinoma: 15%

* Numbers do not sum to 100% because of differences in diagnostic criteria.

NSCLC Survival by stage

<table>
<thead>
<tr>
<th>Years</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>100</td>
<td>79</td>
<td>54</td>
<td>64</td>
<td>48</td>
<td>42</td>
</tr>
<tr>
<td>II</td>
<td>100</td>
<td>65</td>
<td>42</td>
<td>32</td>
<td>28</td>
<td>22</td>
</tr>
<tr>
<td>III</td>
<td>100</td>
<td>34</td>
<td>15</td>
<td>9</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>IV</td>
<td>100</td>
<td>24</td>
<td>9</td>
<td>6</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>
Risk factors

Smoking causes:
80% of lung cancer deaths in men
75% of lung cancer deaths in women
28% of all cancer deaths
Tobacco Use in the USA
1900-1999

*Age-adjusted to 2000 US standard population.

Risk factors other than smoking

Asbestos
Radon (from mining or indoor exposure)
Other “occupational carcinogens”
  Chloromethyl ether
  Chromium
  Nickel
  Arsenic
Diet (vitamins A, C, E, β-carotene deficiencies)
Genetic/familial factors
## Lung Cancer signs and symptoms at diagnosis

<table>
<thead>
<tr>
<th>Sign</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cough</td>
<td>40%</td>
</tr>
<tr>
<td>Dyspnea</td>
<td>30%</td>
</tr>
<tr>
<td>Chest Pain</td>
<td>25%</td>
</tr>
<tr>
<td>Hemoptysis</td>
<td>15%</td>
</tr>
<tr>
<td>Pneumonitis</td>
<td>15%</td>
</tr>
<tr>
<td>Weight Loss</td>
<td>40%</td>
</tr>
<tr>
<td>Generalized Weakness</td>
<td>35%</td>
</tr>
<tr>
<td>Anorexia</td>
<td>35%</td>
</tr>
<tr>
<td>Fever</td>
<td>15%</td>
</tr>
<tr>
<td>Anemia</td>
<td>15%</td>
</tr>
</tbody>
</table>
# NSCLC: Treatment and Outcome by Stage

<table>
<thead>
<tr>
<th>Pathologic Stage</th>
<th>Treatment</th>
<th>5-Year Survival, %*</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Surgery</td>
<td>60-70</td>
</tr>
<tr>
<td>II</td>
<td>Surgery</td>
<td>30-50</td>
</tr>
<tr>
<td>IIIA</td>
<td>Surgery/Multimodality Regimen</td>
<td>10-30</td>
</tr>
<tr>
<td>IIIB</td>
<td>Chemotherapy/Radiation</td>
<td>5</td>
</tr>
<tr>
<td>IV</td>
<td>Chemotherapy</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

*Overall 5-year survival is 14%.*

NSCLC: Stage Grouping of the TNM Subsets

TNM = tumor, node, metastasis.

NSCLC
Evaluation of disease extent

- Physical examination
  - Chest X-ray film
  - CT scan (chest, upper abdomen)
  - PET/CT
  - Bronchoscopy
  - SGOT, AST, CA

Suspected mediastinal spread
  - Transbronchoscopic needle aspiration
  - Mediastinoscopy
  - Video-assisted thoracoscopy

“Normal mediastinum”

Central disease
  - Mediastinoscopy & Thoracotomy

Peripheral tumor
  - (Mediastinoscopy?) & Thoracotomy

Diagnostic Challenges

Patients/Family perspective

Devastating Diagnosis
Uncertainty?
Undergoing testing
Family/Friend’s support system?
Family Dynamics?
Diagnostic Challenges

Physician perspective

Breaking bad news to the patient/family

Scheduling and decisions of tests

Co-coordinating care with other disciplines
Treatment Challenges

Patients/Family perspective

How confident am I with my physician?

Do I need second opinion? If so, will I offend my physician?

Should I get treatment at a large academic center or a community center what if there will be the difference?
Treatment Challenges

Patients/Family perspective

Should I participate in a clinical trial? Or get standard on care treatment?

What will happen to me? How long will I live?

Will I be in pain when drugs stop working?
Treatment Challenges

Physician perspective

Making decision of therapy

Giving patient a realistic picture of prognosis but hope at the same time

Finding the best clinical trial
Case Study

70 years old gentleman was diagnosed with Lung Cancer.

His local physician told him he could get chemotherapy or nothing and will live about 6months by his estimate.

His son who lived in DC bought him for 2\textsuperscript{nd} opinion to an academic center.

After Work up patient underwent a surgical resection followed by adjuvant chemotherapy.

He is well and alive 6yrs later.

\textit{He decided on getting second opinion}
45 yrs. Old female an ICU nurse by profession comes to ER with acute shortness of breath

Had large amounts of fluid in lungs and after testing was diagnosed with metastatic lung cancer

1 cycle of standard of care chemotherapy

Patient worsens with possible plans to get on hospice

Starts a targeted oral therapy before going home
Case Study

Patient improves, oxygen requirement goes down slowly and patients gets off oxygen in 6 weeks.

At 9 months later she is still doing well and sends me a touching thank you card “thank you, because of you I am able to spend another thanksgiving with my family”.

She lives 15 months.

She made a decision to go on an experimental drug.
Thank You

Questions/Comments, contact:
NCI.BRPwebinars@icfi.com
301-407-6608