Current Status of Surgical Management of NSC Lung Cancer

Arvind Kumar
Prof of Surgery,
AIIMS, New Delhi
arvindreena@gmail.com
Greetings

All India Institute of Medical Sciences
New Delhi, India
Lung Cancer: Surgery

- Incidence
- Workup
- Staging
- Pre-op assessment
- Pre-op Preparation
- Surgery
- Post-op management
- Survival
Lung Cancer
The magnitude of problem

- Leading cause of cancer related mortality worldwide
- Incidence among US males / US females
- Incidence among Asians: Males / Females
- Indian Data
**Cancer Incidence Rates* for Men, US, 1975-2000**

**Rate Per 100,000**

*Prostate*

*Lung*

*Colon and rectum*

*Urinary bladder*

*Non-Hodgkin lymphoma*

*Age-adjusted to the 2000 US standard population.  
Source: Surveillance, Epidemiology, and End Results Program, 1975-2000, Division of Cancer Control and Population Sciences, National Cancer Institute, 2003.*
**Cancer Incidence Rates* for Women, US, 1975-2000**

*Rate Per 100,000*

*Breast*

*Colon & rectum*

*Lung*

*Uterine corpus*

*Ovary*

*Age-adjusted to the 2000 US standard population.*

2004 Estimated US Cancer Deaths*

<table>
<thead>
<tr>
<th>Cancer Site</th>
<th>Percentage</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung &amp; bronchus</td>
<td>32%</td>
<td>290,890</td>
<td>25%</td>
</tr>
<tr>
<td>Prostate</td>
<td>10%</td>
<td></td>
<td>15%</td>
</tr>
<tr>
<td>Colon &amp; rectum</td>
<td>10%</td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>Pancreas</td>
<td>5%</td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td>Leukemia</td>
<td>5%</td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td>Non-Hodgkin lymphoma</td>
<td>4%</td>
<td></td>
<td>4%</td>
</tr>
<tr>
<td>Esophagus</td>
<td>4%</td>
<td></td>
<td>3%</td>
</tr>
<tr>
<td>Liver &amp; intrahepatic bile duct</td>
<td>3%</td>
<td></td>
<td>3%</td>
</tr>
<tr>
<td>Urinary bladder</td>
<td>3%</td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>Kidney</td>
<td>3%</td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>All other sites</td>
<td>21%</td>
<td></td>
<td>24%</td>
</tr>
</tbody>
</table>

*ONS=Other nervous system.
Lung Cancer
The magnitude of problem
Future Scenario

• Tobacco industry : Asian Females
• No discussion of the Tobacco Industry today is complete without addressing what may be the most important feature on the landscape – the Female Asian market.
Workup in Lung Cancer

• **Step 1**- Presumptive Dx
  Presumptive Cell type
  (SCLC vs NSCLC)
  Presumptive stage
  (clinical evaluation, risk factors, CT findings)

• **Step 2**- Confirmation of Dx / Cell type
  Confirmation of Stage
  (Radiology & **invasive tests**)

• **Step 3**- Treatment
Lung Cancer

Staging
NSCLC: Stage I

**Stage I**
- **N0**: no lymph node involvement
- **M0**: no distant metastasis
- **No lobar bronchus involvement**

**T**
- **T1**
  - T ≤ 3 cm
  - No lobar bronchus involvement
  - N0: no lymph node involvement
  - M0: no distant metastasis

- **T2**
  - T + visceral pleural involvement
  - Any of the following:
    - T > 3 cm
    - T = main bronchial involvement
    - ≥ 2 cm distal to carina

- **T + distal atelectasis**
NSCLC: Stage II

IIa
T1 N1 M0

IIb
T2 N1 M0
T3 N0 M0

Any of the following:
T+ main bronchial involvement < 2 cm distal to carina
T (any size) invading chest wall, diaphragm, mediastinal pleura, or pericardium
T + total atelectasis

N1: ipsilateral peribronchial and/or ipsilateral hilar nodes involved
M0: no distant metastasis
NSCLC: Stage IIIA

T3 N1 M0
T3 N2 M0

T1 N2 M0
T2 N2 M0

N1: ipsilateral peribronchial and/or ipsilateral hilar nodes involved
N2: ipsilateral mediastinal and/or subcarinal nodes involved
M0: no distant metastasis

T ≤ 3 cm
No lobar-bronchus involvement

T ≥ 3 cm
T + visceral pleura involved
T + atelectasis

<2 cm
OR
≥ 2 cm

T → chest wall (or diaphragm)

T → mediastinal pleura (or pericardium)
NSCLC: Stage IIIB

Any T, N3, M0

Scalene
Supraclavicular

Any T

N3: contralateral mediastinal, contralateral hilar, ipsilateral, or contralateral scalene or supraclavicular nodes involved

T4, Any N, M0

T4

Any N

T (any size) invading mediastinum, heart, great vessels, trachea, esophagus, vertebral body, or carina or T+ malignant pleural effusion
**NSCLC: Stage IV**

Any T, Any N, M1

M1: distant metastasis

Brain
Draining lymph nodes
Pericardium
Lung
Pleura
Liver
Adrenals
Skin
Bone

Mountain CF. *Chest.* 1997;111:1710-1717.
What is Accurate Staging

Clinical Stage Vs

Pathological Stage
Clinical Stage vs Pathological Stage

Lymph Node Status

- Clinical N0 - 62% N0
  - 38% up-stage

- Clinical N1 - 40% N1
  - 30% False +ve (CT scan)
  - 30% False –ve (CT scan)

- Clinical N2 – 30% N2
  - > 50% False +ve (CT scan)

(Hans Hoffmann. Lung Cancer 2001;34:S3-S5)
Lung Cancer Staging

Why is it necessary?

- Determines Rx
- Determines Prognosis
- Prerequisite for the development and modification of Rx Strategies
- Comparing of results

Accurate Staging is vital to avoid unnecessary Surgery
Lung Cancer Staging

**Non Invasive**
- CT Scan
- MRI
- PET Scan
- TBNA
- TTNA
- EUS-NA

**Invasive**
- Mediastinoscopy
- Thoracoscopy
- Sentinel LN Mapping
Lung Cancer Staging: Non invasive CT Scan

- Chest wall, Mediastinal structures, Pulm. Vessels: Infiltration vs contact
- Pleural nodules
- L.N.: Size Criteria, >1 cm: abnormal enlargement vs involvement
- Para esoph., Pulm. Lig.
- Includes upper abd.: Liver / adrenal: 3-5%

Always done, guide to biopsy confirmation of LN
Lung Cancer Staging: Non invasive MRI

- No additional advantage over CT except:
  - Pancoast tumors
  - ? Chest wall
- Not recommended as routine
Lung Cancer Staging: Non invasive TBNA

Bronchoscopy with TBNA

• Positive aspirate from TBNA obviates the need for further staging

• Pooled data:
  • Sensitivity - 76%
  • Specificity - 96%
  • NPV - 71%

Toloza et al, Chest 2003; 123; 157-166
Lung Cancer Staging: Non invasive EUS-NA

- Excellent modality for evaluation of Med. LN as well as primary tumor
- Accesses sites not accessible to C.M.
- Evaluation for T4 also possible
- Biopsy from L.N.
- Local anaesthesia
Lung Cancer Staging: Non invasive EUS-NA

- 107 pts.: Resectable NSCLC:
  - EUS – CM – thoracotomy if CM negative
  - EUS + CM: 36% LN positive
  - EUS: 28%
  - CM: 20%

Thus, 16% of thoracotomies could have been avoided by using EUS with CM

*Annema et al, JAMA 2005: 294; 931-36*
Lung Cancer Staging : Non invasive
EUS-NA

EUS NA when added to CM, improves the preop. Staging of lung cancer due to complementary reach of EUS in determining LN metastasis and the ability to assess mediastinal tumor invasion (T4)

Annema et al, JAMA 2005: 294 ; 931-36
Larsen et al, Lung Cancer 2005 May 27
Lung Cancer Staging: Non invasive PET Scan

- PET – CT fusion scan
- T: superior in diagnostic accuracy for T staging and differentiation between tumor and peritumoral atelectasis
- N: very effective for Mediastinal nodal staging. Assists mediastinoscopy to reveal additional disease in 6% of patients.
- M: detects unexpected extrathoracic metastases in 10-20% of patients and changes therapeutic management in about 20% of patients. NOT good for Brain mets.
Lung Cancer Staging: Non invasive PET Scan

- High accuracy in distinguishing recurrent disease from benign treatment effects.

- Although not all tumors take up FDG, other radiotracers are being studied to expand the utility of PET-CT: DOTATOC Scan

The standard imaging modality for staging patients with lung cancer.
Lung Cancer Staging: Non invasive PET Scan

- Inflammatory disease
- Infectious disease
  
  **Tuberculosis**

Gilman et al, seminars in Roentgenology, 2005

Lung Cancer Staging: Invasive

C. M.

- Excellent modality for Mediastinal exploration
- Routine vs **selective**
- < 1 cm on CT: No CM
- > 1 cm: CM in all
- Sensitivity: 81%
- NPV: 91%
Lung Cancer Staging : Invasive VATS

• Direct Visualisation : Tumor / LN / Pleura

• Tools :
  • Ultrasound
  • FNAC / Biopsy
  • Wedge resection
Role of VATS in Lung Cancer

- **Tumor** - Contact / Compression / Invasion of Hilar or Mediastinal structures

- **Staging** - Bx of all LN stations (except 1,12-14)

- **Discover** - Unsuspected pleural implants

- **Identify** - Synchronous satellite nodules
VATS Criteria of Unresectability

- Extranodal N2 disease
- Bilateral lymph node involvement
- Extensive Pericardial invasion
- Superior Vena Cava involvement
VATS Criteria of Unresectability

- Esophageal invasion
- Extensive chest wall involvement (> 3 ribs)
- Pleural Dissemination
- Centrally located primary tumor with intrapericardial extension (Clinical T4)
Lung Cancer Staging: Limitations

- **CT scan**: No tissue diagnosis
  - Under/over staging

- **PET**: No tissue diagnosis
  - No anatomic size of tumor
  - False +ve (TB, fungal)
  - False -ve (< 1cm tumor, hyperglycemia)

- **TTNA**: Only large ant. mediastinal masses
  - False negative rate 20 – 50%
Limitations

- **TBNA** - Subcarinal LNs (station 7)
  False negative rate 30%

- **EUS-NA** - Few reports
  LNs at station 9, 7, 5
  False –ve 23%

- **Mediastinoscopy** - LNs at station 1,2,3,4 & 7
  No assessment of Tumor
Lung Cancer

Surgery
Lung Cancer: Surgery

- Surgery: Best chance of cure, long survival
- Possible < 10 %, Majority advanced
- Tumour Dx conf., No C.I. For Sx
- Pt fit for Sx.; Operable vs Resectable

**Stage O - III A: Resectable**

- Radiotherapy: Primary / Adj.: Preop./ post
- Chemotherapy: Neo-adj./ Adj. / Chemorad.

**MULTI-MODALITY**
Lung Cancer : C.I. to Sx

Tumour  *Unresectable* : Inv.of Str.

- Nerve Inv. : RLN, Phrenic.
- Vessels : SVC, Ao, MPA
- Str. : Heart, Esoph, Trachea, ? Vertebra
- Cavities : Malignant Pleural / Peric. Effusion
- L.N. : Supraclavic. , Contralateral Med.
- Metastatic Dis : Brain, Bone, Adrenal, Liver, Other

*Chest wall (rib) : Not C.I. to Sx*
Lung Cancer: C.I. to Sx

Pt. **Unfit** for Sx

- Performance status (GC)
- Cardiac
- Pulmonary
- hepatic
- renal
- others
Lung Cancer : Surgery

Factors which ↑ risk of Sx

- ASA class > 2, Advanced age
- Cardiac Inv. : Valvular / CAD
- COAD
- Em. Proc., Extensive lung resection
- Immuno-compromised ; Post CT/ RT
- Morbid obesity, Smoking, Prolonged Sx
- Drugs : Steroids
Lung Cancer: Sx: Pre-Op. assessment

- Hx, Examination, Co-morbid conditions
- PFT: Spirometric / gas Exch.

<table>
<thead>
<tr>
<th>Spirometric</th>
<th>&lt;= 60%</th>
<th>Operable</th>
</tr>
</thead>
<tbody>
<tr>
<td>FVC</td>
<td></td>
<td>&gt; 60%</td>
</tr>
<tr>
<td>FEV1</td>
<td></td>
<td>&gt; 60%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gas Exch.</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DLCO</td>
<td>&lt; 60%</td>
<td>&gt; 60%</td>
</tr>
<tr>
<td>PaCO2</td>
<td>&gt; 45mmHg</td>
<td>&lt; 45</td>
</tr>
</tbody>
</table>
Lung Cancer : Sx : Pre-Op. assessment

Split Fn test : Post-op. Predicted values

- FEV1/DLCO > 60% : Fit : Any Proc
- Rest : Quantitative V/ Q lung scan : Pred. Post-op
- > 40% : Sx ,
- < 40% : Exercise study / others

High risk for Sx :
Ventilator , Mortality

Breath Holding Time : Stair Climbing Test
Lung Cancer: Sx: Pre-Op. Preparation

- Stop Smoking, Steam, Sputum liquefy, Sputum c/s: Antibiotics, Bronchodilators
- Dry patient: Not wet
- Chest Phys.thx, Exercises: Conditioning
- Incentive Spirometry
- Explain, solicit co-operation
- **Few days of pre-op. hard work: post-op**
- Steroids, ? Digitalis

Check Chemothx dates
Lung Cancer: Surgery Team Work

- Surgical Team
- Anaesthetist
- ICU Set up
- Pain Management Protocol
- Physiotherapist
Lung Cancer: Surgery

• Primary Tumor
  • Complete removal

• Lymph Nodes
  • LN Sampling
  • Systematic LN Dissection
Lung Cancer : Surgery

- Wedge, Segment, Lobe, Lung
- Anatomical / Non-anatomical
- Chest wall: In continuity ribs res. : MESH ,
- Mediastinum: Tumour Res. : Clear margin
- Save parenchyma: as much as possible
- Sleeve resections: Br., Trachea, Carina
Lung Cancer : Surgery

• LN : None - Extensive radical LN’ectomy Staging vs Curative value
Lung Cancer : Others

Carcinoids
Lung Cancer: Surgery

Malignant Pleural Effusion

Pleurodesis: Talc / Bleomycin
## % Survival in NSCLC

<table>
<thead>
<tr>
<th>Stage</th>
<th>1 Year</th>
<th>5 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>80.7</td>
<td>46.9</td>
</tr>
<tr>
<td>II</td>
<td>68.3</td>
<td>26.1</td>
</tr>
<tr>
<td>III</td>
<td>41.5</td>
<td>8.4</td>
</tr>
<tr>
<td>IV</td>
<td>16.9</td>
<td>1.6</td>
</tr>
</tbody>
</table>

(American Joint Committee on Cancer: 2002)
Lung Cancer

Early diagnosis

TRIALS
Lung Cancer: Prevention

- Health or Tobacco: SMOKING
  - Active / Passive
  - Laws: Public places
  - Public Awareness
  - Concerted Movement

- Others
A conference is a gathering of important people who singly can do nothing, but together can decide that nothing can be done.

Fred Allen
Thank you
Fig. 2.1: Ten Leading Sites of Cancer - Bangalore (1999-2000)

Age Adjusted Rates given in parentheses

**Males**

- Stomach: 9.4 (9.5)
- Oesophagus: 8.5 (9.0)
- Lung: 7.6 (8.1)
- Prostate: 5.8 (6.6)
- Hypopharynx: 4.5 (4.7)
- Larynx: 4.1 (4.4)
- NHL: 4.0 (3.6)
- Brain, NS.: 4.0 (3.0)
- Liver: 3.7 (3.9)
- Tongue: 3.4 (3.5)

**Females**

- Breast: 22.1 (26.8)
- Cervix Uteri: 18.7 (23.3)
- Oesophagus: 5.5 (7.6)
- Ovary: 5.0 (6.0)
- Mouth: 4.0 (6.2)
- Stomach: 4.2 (5.5)
- Corpus Uteri: 3.2 (4.0)
- Thyroid: 2.9 (3.0)
- Brain, NS.: 2.4 (2.4)
- NHL: 2.4 (2.7)
Fig. 2.2: Ten Leading Sites of Cancer - Barshi (1999-2000)

Age Adjusted Rates given in parentheses

**Males**

- Hypopharynx: 10.9 (5.2)
- Oesophagus: 7.9 (3.7)
- Liver: 5.9 (2.8)
- Stomach: 5.4 (2.5)
- Rectum: 5.4 (2.5)
- Mouth: 5.0 (2.3)
- Lung: 5.0 (2.3)
- Penis: 5.0 (2.2)
- Other Skin: 5.0 (2.2)
- NHL: 4.5 (1.8)

Relative Proportion %

**Females**

- Cervix Uteri: 43.2 (23.4)
- Breast: 12.2 (6.8)
- Oesophagus: 5.9 (3.2)
- Rectum: 3.2 (1.8)
- Mouth: 2.7 (1.6)
- Ovary: 2.7 (1.4)
- Other Skin: 2.7 (1.5)
- Tongue: 2.3 (1.2)
- Lung: 2.3 (1.3)
- Stomach: 2.3 (1.2)
Fig. 2.4: Ten Leading Sites of Cancer - Chennai (1999-2000)

Age Adjusted Rates given in parentheses

**Males**

<table>
<thead>
<tr>
<th>Site</th>
<th>Relative Proportion %</th>
<th>Rate (Adjusted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stomach</td>
<td>11.4</td>
<td>13.5</td>
</tr>
<tr>
<td>Lung</td>
<td>9.2</td>
<td>11.3</td>
</tr>
<tr>
<td>Oesophagus</td>
<td>8.3</td>
<td>10.2</td>
</tr>
<tr>
<td>Mouth</td>
<td>5.1</td>
<td>6.0</td>
</tr>
<tr>
<td>Hypopharynx</td>
<td>4.7</td>
<td>5.9</td>
</tr>
<tr>
<td>Tongue</td>
<td>4.7</td>
<td>5.6</td>
</tr>
<tr>
<td>NHL</td>
<td>4.4</td>
<td>5.0</td>
</tr>
<tr>
<td>Larynx</td>
<td>4.3</td>
<td>5.2</td>
</tr>
<tr>
<td>Prostate</td>
<td>3.6</td>
<td>5.0</td>
</tr>
<tr>
<td>Brain, NS.</td>
<td>3.3</td>
<td>3.5</td>
</tr>
</tbody>
</table>

**Females**

<table>
<thead>
<tr>
<th>Site</th>
<th>Relative Proportion %</th>
<th>Rate (Adjusted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervix Uteri</td>
<td>25.2</td>
<td>32.3</td>
</tr>
<tr>
<td>Breast</td>
<td>22.5</td>
<td>28.0</td>
</tr>
<tr>
<td>Ovary</td>
<td>5.2</td>
<td>6.4</td>
</tr>
<tr>
<td>Oesophagus</td>
<td>4.7</td>
<td>6.3</td>
</tr>
<tr>
<td>Stomach</td>
<td>4.6</td>
<td>5.9</td>
</tr>
<tr>
<td>Mouth</td>
<td>4.2</td>
<td>5.9</td>
</tr>
<tr>
<td>NHL</td>
<td>2.1</td>
<td>2.4</td>
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<tr>
<td>Thyroid</td>
<td>2.0</td>
<td>2.1</td>
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<tr>
<td>Lung</td>
<td>1.9</td>
<td>2.5</td>
</tr>
<tr>
<td>Brain, NS.</td>
<td>1.9</td>
<td>2.3</td>
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</table>
Fig. 2.3: Ten Leading Sites of Cancer - Bhopal (1999-2000)

Age Adjusted Rates given in parentheses

Males

<table>
<thead>
<tr>
<th>Site</th>
<th>Relative Proportion %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>11.0 (14.0)</td>
</tr>
<tr>
<td>Tongue</td>
<td>9.1 (10.7)</td>
</tr>
<tr>
<td>Oesophagus</td>
<td>7.6 (10.0)</td>
</tr>
<tr>
<td>Mouth</td>
<td>7.0 (8.4)</td>
</tr>
<tr>
<td>Hypopharynx</td>
<td>5.6 (7.4)</td>
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<tr>
<td>Larynx</td>
<td>4.7 (6.0)</td>
</tr>
<tr>
<td>NHL</td>
<td>4.5 (4.6)</td>
</tr>
<tr>
<td>Brain, NS</td>
<td>3.2 (2.6)</td>
</tr>
<tr>
<td>Rectum</td>
<td>2.8 (3.4)</td>
</tr>
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Females

<table>
<thead>
<tr>
<th>Site</th>
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<tbody>
<tr>
<td>Breast</td>
<td>24.4 (25.5)</td>
</tr>
<tr>
<td>Cervix Uteri</td>
<td>21.4 (24.4)</td>
</tr>
<tr>
<td>Mouth</td>
<td>6.1 (7.7)</td>
</tr>
<tr>
<td>Ovary</td>
<td>4.5 (5.0)</td>
</tr>
<tr>
<td>Gallbladder</td>
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<tr>
<td>NHL</td>
<td>2.5 (2.2)</td>
</tr>
<tr>
<td>Corpus Uteri</td>
<td>2.4 (2.9)</td>
</tr>
<tr>
<td>Myel. Leuk.</td>
<td>2.2 (1.9)</td>
</tr>
<tr>
<td>Lung</td>
<td>2.1 (2.7)</td>
</tr>
</tbody>
</table>
Fig. 2.6: Ten Leading Sites of Cancer - Mumbai (1999-2000)

Age Adjusted Rates given in parentheses

### Males

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<th>(Age Adjusted Rate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>9.1</td>
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<td>(7.5)</td>
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### Females

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</thead>
<tbody>
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<td>Breast</td>
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<td>(31.5)</td>
</tr>
<tr>
<td>Cervix Uteri</td>
<td>14.3</td>
<td>(17.4)</td>
</tr>
<tr>
<td>Ovary</td>
<td>6.7</td>
<td>(7.9)</td>
</tr>
<tr>
<td>Oesophagus</td>
<td>4.1</td>
<td>(5.8)</td>
</tr>
<tr>
<td>Mouth</td>
<td>3.4</td>
<td>(4.6)</td>
</tr>
<tr>
<td>Brain, NS.</td>
<td>3.2</td>
<td>(3.6)</td>
</tr>
<tr>
<td>NHL</td>
<td>2.8</td>
<td>(3.5)</td>
</tr>
<tr>
<td>Lung</td>
<td>2.7</td>
<td>(3.8)</td>
</tr>
<tr>
<td>Corpus Uteri</td>
<td>2.5</td>
<td>(3.4)</td>
</tr>
<tr>
<td>Gallbladder</td>
<td>2.3</td>
<td>(3.2)</td>
</tr>
</tbody>
</table>
Fig. 2.5: Ten Leading Sites of Cancer - Delhi (1999-2000)

Age Adjusted Rates given in parentheses

**Males**

<table>
<thead>
<tr>
<th>Site</th>
<th>Relative Proportion %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>9.6 (12.2)</td>
</tr>
<tr>
<td>Larynx</td>
<td>6.8 (8.3)</td>
</tr>
<tr>
<td>Prostate</td>
<td>5.3 (7.8)</td>
</tr>
<tr>
<td>NHL</td>
<td>5.2 (5.3)</td>
</tr>
<tr>
<td>Tongue</td>
<td>5.1 (5.9)</td>
</tr>
<tr>
<td>Oesophagus</td>
<td>5.0 (6.0)</td>
</tr>
<tr>
<td>Brain, NS.</td>
<td>4.6 (4.1)</td>
</tr>
<tr>
<td>Bladder</td>
<td>4.4 (5.8)</td>
</tr>
<tr>
<td>Mouth</td>
<td>3.4 (3.9)</td>
</tr>
<tr>
<td>Gallbladder</td>
<td>3.2 (3.9)</td>
</tr>
</tbody>
</table>

**Females**

<table>
<thead>
<tr>
<th>Site</th>
<th>Relative Proportion %</th>
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</thead>
<tbody>
<tr>
<td>Breast</td>
<td>25.1 (31.5)</td>
</tr>
<tr>
<td>Cervix Uteri</td>
<td>16.4 (20.5)</td>
</tr>
<tr>
<td>Ovary</td>
<td>7.2 (8.8)</td>
</tr>
<tr>
<td>Gallbladder</td>
<td>6.5 (9.1)</td>
</tr>
<tr>
<td>Oesophagus</td>
<td>2.7 (4.0)</td>
</tr>
<tr>
<td>Thyroid</td>
<td>2.7 (3.4)</td>
</tr>
<tr>
<td>NHL</td>
<td>2.7 (2.9)</td>
</tr>
<tr>
<td>Brain, NS.</td>
<td>2.4 (2.5)</td>
</tr>
<tr>
<td>Myel. Leuk.</td>
<td>2.3 (2.2)</td>
</tr>
<tr>
<td>Lung</td>
<td>2.3 (3.2)</td>
</tr>
</tbody>
</table>