Lung Cancer MDC data collection

Speaker:
Dr. Matthew Conron
Lung Cancer

Issues surrounding lung cancer data collection

- Presentation undifferentiated: MDC’s are for lung mass FI data gathered prior to diagnosis
- Disease is common and lethal: care not concentrated at few centres survival relatively short
- Management seldom curative: requires more than surgical database interaction with Pall Care services
- Management multimodality: care shared across disciplines occurs across a number of centres
- Patients old and frail: comorbidities affect Rx & outcome
# Lung Cancer

<table>
<thead>
<tr>
<th>Category</th>
<th>NCCI</th>
<th>QILCOP</th>
<th>St Vincent’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographics</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Smoking / Occupational exposure</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Clinical</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>symptoms / signs</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Date of symptom onset/1st presentation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Referral to lung cancer service</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>ECOG</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Comorbidities</td>
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<td>✓</td>
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<td>Biochem / Haematol</td>
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<tr>
<td>Radiology</td>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>Pulmonary Function</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Tumour</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Method of diagnosis</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Type</td>
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<td>✓</td>
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<tr>
<td>Staging</td>
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<tr>
<td>Compare Clinical/PET/Pathol</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Treatment</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Modality</td>
<td>✓</td>
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<tr>
<td>Pathological R0, R1 &amp; R2</td>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>Recurrence</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Date, site</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Survival</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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</tbody>
</table>
St. Vincent’s Hospital (Melbourne)

Combined Lung Clinic

PATIENT DATA SHEET

(Date):

Referring Doctor:

Specialist internal 1
Specialist external 2
LMO 3
A&E 4

GP:

Contact:

Smoking: Y/N/Ex

Age Started: yrs
Age Ceased: yrs
Pack years: number

Occupational exposure:

Passive smoking:

1. Symptomatic, Incidental
2. Symptomatic

% Weight loss: over 6 mths

ECOG status at initial CLC visit:

0 Fully active
1 Ambulatory capable of light work
2 Bed <50% of time, self caring, not working
3 Bed >50%, partially self caring
4 Bedridden

Previous Cancer:

Y/N

If yes, which site

Interval mths

Comorbidities:

COPD

1. Physiologically confirmed (FEV1/FVC <65%)  
2. Clinically and/or radiologically suspected  
3. No COPD on testing  
4. Unable to assess

Histology:

Primary NSCLC  
Presumed Lung Cancer  
SCLC  
Differentiation

Definitive treatment: Date:

Treatment modalities:

1. Lobectomy/pneumonectomy, 2. palliative surgery, 3. palliative radiotherapy, 4. radical RTx, 5. chemotherapy, 6. combined chemoradiation, 7. supportive care, 8. other

Recommended Treatment:

Palliative? XRT Surgery Chemotherapy
Curative? Surgery XRT ChemoRT

Regimen details:

Details:

Cause of Death:

Tx-related
Secondary primary
Lung Ca – loco reg
Lung Ca – distant
Unknown

Date of Death:

Details:

First recurrence details:

Type of recurrence: Local Local & distant Distant only

Date of recurrence: Onset

Level of evidence: Imaging Both

Site(s) of distant recurrence:

Number:
0 = none
1 = solitary
2 = multiple

Size, if solitary (mm):

Brain
Bone
Liver
Adrenals
Lung

Number

Size

Recommended Treatment:

Palliative? XRT Surgery Chemotherapy
Curative? Surgery XRT ChemoRT

Regimen details:

Details:

Cause of Death:

Tx-related
Secondary primary
Lung Ca – loco reg
Lung Ca – distant
Unknown

Date of Death:

Details:
# Lung Cancer

**St V’s Combined Lung Clinic activity 5 years**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Lung Cancer</td>
<td>855</td>
</tr>
<tr>
<td>Secondary Lung Cancer</td>
<td>170</td>
</tr>
<tr>
<td>Primary Pleural Cancer</td>
<td>39</td>
</tr>
<tr>
<td>Secondary Pleural Cancer</td>
<td>18</td>
</tr>
<tr>
<td>Malignant Mediastinal Tumour</td>
<td>40</td>
</tr>
<tr>
<td>Benign Mediastinal Tumour</td>
<td>22</td>
</tr>
<tr>
<td>Presumed Lung Cancer</td>
<td>74</td>
</tr>
<tr>
<td>Benign</td>
<td>327</td>
</tr>
<tr>
<td>Pending</td>
<td>123</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>1711</td>
</tr>
</tbody>
</table>

- **Primary Lung Cancer tissue or cytological diagnosis 92%**

**Other malignancies**:
- Breast adenocarcinoma
- Colon adenocarcinoma
- Stomach adenocarcinoma
- Pancreas adenocarcinoma
- Adenocarcinoma of unknown primary
- Osteosarcoma
- Lymphoma
- Other malignancies

**Additional diagnoses**:
- Pulmonary vasculitis
- Sarcoidosis
- Bronchiectasis
- Tuberculoma
- Lymphomatoid granulomatosis
- Tuberculous bronchial stricture
- Endochondroma
- Pulmonary infarct
- Round atelectasis
- Benign pleural plaque
Lung Cancer

(A) CLC activity:

Mean age

<table>
<thead>
<tr>
<th>Metropolitan (distant)</th>
<th>Metropolitan (distant)</th>
<th>rural &amp; regional</th>
</tr>
</thead>
<tbody>
<tr>
<td>72±10yrs</td>
<td>69±11yrs</td>
<td>67±11yrs</td>
</tr>
</tbody>
</table>

% of total patients

<table>
<thead>
<tr>
<th>Metropolitan (distant)</th>
<th>Metropolitan (distant)</th>
<th>rural &amp; regional</th>
</tr>
</thead>
<tbody>
<tr>
<td>22%</td>
<td>44%</td>
<td>34%</td>
</tr>
</tbody>
</table>

(B) CLC process:

Referral to MDC

- 4.6 ± 5.0 days

Initial Consultation

- 14.5 ± 17.3 days

Management decision

Supportive Care

<table>
<thead>
<tr>
<th>Management decision</th>
<th>Number</th>
<th>Days delay to therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lobectomy/Pneumonectomy</td>
<td>89 (34.6%)</td>
<td>13.8 ± 9.5 (range 1-40)</td>
</tr>
<tr>
<td>Radical Chemo/Radiotherapy</td>
<td>18 (7.0%)</td>
<td>23.0 ± 18.0 (range 1-61)</td>
</tr>
<tr>
<td>Palliative Chemotherapy</td>
<td>41 (16.0%)</td>
<td>9.6 ± 10.4 (range 1-35)</td>
</tr>
<tr>
<td>Palliative Radiotherapy</td>
<td>59 (23.0%)</td>
<td>8.4 ± 7.9 (range 1-38)</td>
</tr>
<tr>
<td>Radical Radiotherapy</td>
<td>5 (1.9%)</td>
<td>22.0 ± 24.0 (range 1-39)</td>
</tr>
<tr>
<td>Endobronch therapy</td>
<td>6 (2.3%)</td>
<td></td>
</tr>
<tr>
<td>Pleurodesis/Pericardiocentesis</td>
<td>5 (1.9%)</td>
<td></td>
</tr>
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</table>

Total 257

Conron et al IMJ 2006
## Audit of St Vincent’s CLC activity

### Recruitment

Patient numbers (n=257)

### (a) BTS recommendations for investigative & management timeline

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>% Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referral to initial consultation</td>
<td>2 weeks</td>
<td>93%</td>
</tr>
<tr>
<td>Initial consultation to thoracotomy</td>
<td>8 weeks</td>
<td>100%</td>
</tr>
<tr>
<td>Decision to treat and commencing chemotherapy</td>
<td>10 days</td>
<td>81%</td>
</tr>
<tr>
<td>Decision to treat and commencing palliative radiotherapy</td>
<td>2 weeks</td>
<td>93%</td>
</tr>
<tr>
<td>Decision to treat and commencing radical radiotherapy</td>
<td>4 weeks</td>
<td>94%</td>
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</table>

### (b) Measures of optimal lung cancer management

<table>
<thead>
<tr>
<th>Stage</th>
<th>Requirement</th>
<th>% Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I-IIa NSCLC</td>
<td>Macroscopically complete surgical resection</td>
<td>98%</td>
</tr>
<tr>
<td></td>
<td>Mediastinal lymph node sampling</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>30 Day survival</td>
<td>95%</td>
</tr>
<tr>
<td>Stage IIIb NSCLC</td>
<td>PET prior to radical combined chemo and radiotherapy</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Completion of 60Gy radiotherapy</td>
<td>84%</td>
</tr>
<tr>
<td>Stage IV NSCLC (ECOG 0-2)</td>
<td>Pathological confirmation of metastatic site of disease</td>
<td>92%</td>
</tr>
<tr>
<td></td>
<td>Referred for consideration of duplet chemotherapy</td>
<td>86%</td>
</tr>
<tr>
<td>Limited stage SCLC</td>
<td>CT head and bone scan performed prior to treatment</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Thoracic irradiation for patients receiving chemotherapy</td>
<td>85%</td>
</tr>
</tbody>
</table>

Conron et al IMJ 2006
Lung Cancer

Audit of St Vincent’s CLC activity

<table>
<thead>
<tr>
<th>Variable</th>
<th>HR</th>
<th>P value</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation</td>
<td>1.5</td>
<td>0.013</td>
<td>1.09 - 2.10</td>
</tr>
<tr>
<td>Histology *</td>
<td>1.5</td>
<td>0.002</td>
<td>1.15 - 1.91</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>0.003</td>
<td>1.25 - 3.04</td>
</tr>
<tr>
<td>Clinical Stage †</td>
<td>III</td>
<td>0.000</td>
<td>1.67 - 3.58</td>
</tr>
<tr>
<td></td>
<td>IV</td>
<td>0.000</td>
<td>3.09 - 6.28</td>
</tr>
</tbody>
</table>

* Large cell vs non-large cell.
† Survival by Clinical stage I compared to II,III & IV
Number of patients = 287
Male 173  Female 114

Variable

Histology
- Adeno 96
- Large 50
- SCC 69

Pathological Stage
- I 138
- II 34
- III 40
- IV 12

Adj chemotherapy
- Yes 62%
- No 38%

Others:
- Recurrence: locoregional distant
- PET stage
- Smoking history

NSCLC: Survival following surgical treatment
Lung Cancer

Web based MDC tool:

- Facilitate MDM and clinic management
- Used for audit of: clinical service delivery
  resource utilisation
  clinic process
- Host data relating to non primary lung cancer episodes
- Statewide lung cancer data collection
- Translational research collaboration: Molecular projects
  Health service evaluation
  Population studies
Model for MDC data management

Lung Cancer MDC database: Clinical Tumour Comorbidity

Oncology Database: Demographics Referring Doctor Sponsor

Hospital CIS

Treatment decision

Radical

Palliative

Supportive

Relapse

New management issue

Pall Rx

Support

Pall Rx

Support

Survivor

Death

Documentation of MDC management decision

Documentation of MDC treatment implemented

Documentation of revised treatment strategy

Documentation of treatment implemented
Lung Cancer

Model for MDC data management

- Hospital CIS
- Oncology Database: Demographics, Referring Doctor, Sponsor
- Lung Cancer MDC database: Clinical Tumour Comorbidity

Documentation of MDC management decision

Treatment decision

- Radical
- Palliative
- Supportive

Documentation of MDC treatment implemented

- Relapse: Pall Rx, Support
- New management issue: Pall Rx, Support

Documentation of revised treatment strategy

Documentation of treatment implemented

Survivor, Death

Web based MDC tool
Lung Cancer

Model for MDC data management

Hospital CIS → Oncology Database: Demographics Referring Doctor Sponsor → Lung Cancer MDC database: Clinical Tumour Comorbidity

- Documentation of MDC management decision
- Documentation of MDC treatment implemented
- Documentation of revised treatment strategy
- Documentation of treatment implemented

Treatment decision

Radical → Relapse → Pall Rx, Support
Palliative → New management issue → Pall Rx, Support
Supportive

Survivor → Death

Synoptic reporting b/w clinicians
Lung Cancer

Model for MDC data management

- Hospital CIS
- Oncology Database: Demographics, Referring Doctor, Sponsor
- Lung Cancer MDC database: Clinical Tumour, Comorbidity

Documentation of MDC management decision
Documentation of MDC treatment implemented
Documentation of revised treatment strategy
Documentation of treatment implemented

Treatment decision

- Radical
- Palliative
- Supportive

Relapse
Pall Rx, Support

New management issue
Pall Rx, Support

Survivor
Death

Cancer Council, Pall Care
RadioTx databases
PBS, MBS
Births, deaths, & marriages

MMIM