Is costly Surveillance Indicated for Indolent Cancers?
The Carcinoid Story

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No Relevant Financial disclosures
Background

Lung carcinoid is an indolent neoplasm

Classified loosely as a lung cancer (different demographics)

- AJCC staging
- Types of resection
- Neuroendocrine origin
Lung Carcinoid

Two types
- Typical
- Atypical

Staged identically

Behave differently
Atypical carcinoid
Atypical carcinoid
Lung Carcinoid

Reported survival

- Typical (TC) > Atypical (AC) >> NSCLC

Airway presentation common

Principal therapy is surgical resection

Limited effectiveness of ANY adjuvant treatment
Lung carcinoid staged as NSCLC, but:

- Survival is better (especially for TC)
- No clear indication for adjuvant therapy
Question

Lung carcinoid staged as NSCLC, but:

• Survival is better (especially for TC)
• No clear indication for adjuvant therapy

How should resected TC patients be followed?
Answer

Like resected NSCLC?
- cCT q6m x 2 yrs, then yearly to 5 yr

Like resected hamartoma?
- A few CXRs, then done
Answer

Like resected NSCLC?
- cCT q6m x 2 yrs, then yearly to 5 yr

Like resected hamartoma?
- A few CXRs, then done

Or somewhere in-between?
Purpose

Review our experience of resected lung carcinoids

To determine

• Survival
• Surveillance patterns
• Yield / utility of surveillance
Purpose

Review our experience of resected lung carcinoids

To determine

• Survival
• Surveillance patterns
• Yield / utility of surveillance
• Create surveillance guidelines
Study Design

2006 to 2013
Resected Carcinoid Patients
Retrospective Review
Reviewed Surveillance cCTs and Bronchoscopies
<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Overall</th>
<th>Typical</th>
<th>Atypical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>51 years</td>
<td>50 years</td>
<td>57 years</td>
</tr>
<tr>
<td>Female</td>
<td>58 %</td>
<td>60 %</td>
<td>25 %</td>
</tr>
<tr>
<td>Smoking</td>
<td>46 %</td>
<td>45 %</td>
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<tr>
<td>FEV1</td>
<td>88 %</td>
<td>87 %</td>
<td>96 %</td>
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<tr>
<td>DLCO</td>
<td>87 %</td>
<td>87 %</td>
<td>NA</td>
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</tbody>
</table>
Resection

Pneumonectomy: 17%
Lobectomy: 68%
Segmentectomy: 9%
Wedge: 4%
Surveillance

Carcinoid
n=57

Atypical
n=4

Typical
n=53

Surveillance

Bronchoscopy
n=31 in 16 patients

Computed CT
n=146 in 53 patients
Bronchoscopy: TC

- Airway / Arterial Reconstruction: 75%
- Recurrence NSCLC: 6%
- Close Margin: 12%
- Air Leak: 6%
Results (TC)

Diagnostic Yield for Carcinoid Recurrence

ZERO
Surveillance

Carcinoid
n=57

- Atypical
  n=4
- Typical
  n=53

Surveillance

Bronchoscopy
n=31 in 16 patients

Computed CT
n=146 in 53 patients
Chest CT: TC

- Negative Nodules < 1 cm: 60%
- Lymph.: 40%
- GGO: 20%
- Pleural Effusion: 0%
Results

Diagnostic Yield for Carcinoid Recurrence

1/18 cCT (5.5%) for AC at 2.5 yr
Results

Diagnostic Yield for Carcinoid Recurrence

1/18 cCT (5.5%) for AC at 2.5 yr

0/128 cCT (0%) for TC
Conclusions

Long term survival for carcinoid

- Excellent

Diagnostic yield

- Very low for both bronchoscopy and cCT post-resection for TC

Recurrence

- No typical carcinoid recurrences during follow-up regardless of nodal status
Guidelines for resected TC need to be established
Completely resected node negative typical carcinoid

- Begin surveillance at 3, 5, 7 years?
- Unclear: We need longer follow-up
TC Surveillance Guidelines

Completely resected node +VE typical carcinoid
In regards to surveillance for Lung Carcinoid, we have much work to do...
In regards to surveillance for Lung Carcinoid, we have much work to do...then we can start on completely resected thymoma...