COMPETING INTEREST OF FINANCIAL VALUE > £1,000:

<table>
<thead>
<tr>
<th>Speaker Name</th>
<th>Statement</th>
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<tbody>
<tr>
<td>Prof Rob Miller</td>
<td>Professor Rob Miller is Editor in Chief of British Journal of Hospital Medicine, for which he receives an honorarium.</td>
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Date | November 2013
HIV-associated Chronic Lung Disease
BHIVA Best Practice Management

Rob Miller
15 November 2013
Outline of talk

• Summarise what is known about the effects of HIV itself on PFTs
• Define chronic lung disease (CLD) syndromes
• Describe the clinical features of some CLD
Interstitial Lung Disease in HIV

Sarah R. Doffman, MB ChB, FRCP. *,
Robert F. Miller, MBBS, FRCP

KEYWORDS
- HIV • Interstitial pneumonitis • Pulmonary fibrosis • Idiopathic lung disease • Antiretroviral therapy

KEY POINTS
- Interstitial lung diseases, such as nonspecific interstitial pneumonitis and lymphocytic interstitial pneumonitis, may be less frequent in the HIV-infected population since the introduction of antiretroviral therapy.
- Other interstitial lung diseases, such as sarcoidosis, may actually be increasing since the introduction of antiretroviral therapy, possibly from renewed immune function.
- Treatment of interstitial lung disease is similar to that in the HIV-uninfected population.
- Many of the interstitial lung diseases have nonspecific presentations and other conditions, such as infections and malignancy, should be ruled out.
Causes of Chronic Lung Disease

Bronchiectasis
Chronic obstructive pulmonary disease
• Asthma
• Chronic bronchitis
• Emphysema
Chronic IRIS respiratory disease
Chronic thrombo-embolic disease
Cryptogenic organising pneumonia
Hypersensitivity pneumonitis
Lymphocytic interstitial pneumonitis
Non-specific interstitial pneumonitis
Obliterative bronchiolitis
Sarcoid
Causes of Chronic Lung Disease

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Non-specific interstitial pneumonitis

- Chronic dyspnoea/fever/cough (mimics PCP)
- ± crackles
- CD4 (m) 490 vs 60 (PCP)
- PaO$_2$ = N or ↓, A-aO$_2$ = ↑
- CXR: interstitial/alveolar infiltrates
  - ground glass shadowing (GGS)
- Diagnosis: BAL = unhelpful
  - Video-assisted Thoracoscopic (VATS)/open biopsy
- Rx: self-limiting vs stable months/years
- responds to ART
Lymphocytic interstitial pneumonitis

- Non-productive cough/progressive dyspnoea
- fevers/weight loss/fatigue
- Strong association with black African/Afro-Caribbean
- ± part of CD8 lymphocytosis syndrome (DILS)

- Fine bibasal crackles ± wheeze
- CD4 N/ >350
- PaO$_2$ =N or ↓, A-aO$_2$ =↑
- CXR: fine reticulonodular infiltrates (basal)
  - mimics miliary TB
  - alveolar consolidation
Lymphocytic interstitial pneumonitis

• PFTs: restrictive pattern
  chronic disease – obstructive pattern
• Diagnosis: BAL CD8 lymphocytosis
  ± ↑ eosinophils/Φ
  VATS/open biopsy
• Rx: ART
  steroids
  ?rituximab
Cryptogenic organizing pneumonia

• Previously called bronchiolitis obliterans organising pneumonia (BOOP)
• Presentation mimics PCP
  Many cases “empirically diagnosed PCP” – gets better with co-trimoxazole & **steroids**
  May occur as IRIS following Rx PCP
• Non-productive cough/fevers/dyspnoea
• Bi-basal crackles (widespread)
• CD4 any
• Raised CRP/ESR ± neutrophilia
• $\text{PaO}_2 = \text{N or } \downarrow, \text{A-aO}_2 = \uparrow$
Cryptogenic organizing pneumonia

- PFTs: restrictive defect
- CXR: consolidation uni/bilateral
- Diagnosis: BAL = CD8 lymphocytosis
  VATS/open biopsy
- Rx: steroids
  Prednisolone 1mg/kg od tapering over 6-10 weeks
cf PIs
Sarcoid

- Cough/exertional dyspnoea
  ± fever/night sweats
- Extra-pulmonary features: uveitis/rash/LN↑
- Chest clear or bibasal crackles
- CD4 > 200
- CRP/ESR/sACE↑
- PaO₂ =N or ↓
- PFTs: restrictive pattern
Sarcoid

Diagnosis: BAL lymphocytic
  TBB yield = good cf pneumothorax
  VATS/open biopsy
  EBUS (mediastinal LN)

Rx: self-limiting
  steroids if PFTs↓ or symptoms↑

NB increasingly recognised as an IRIS
## Chronic lung disease

<table>
<thead>
<tr>
<th>Clinical feature</th>
<th>NSIP</th>
<th>LIP</th>
<th>COP</th>
<th>Sarcoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyspnoea &amp; cough</td>
<td>+/-</td>
<td>+</td>
<td>+</td>
<td>+/-</td>
</tr>
<tr>
<td>fever</td>
<td>+/-</td>
<td>+</td>
<td>+</td>
<td>+/-</td>
</tr>
<tr>
<td>CD4 count</td>
<td>&lt;200-500</td>
<td>&gt;350</td>
<td>Any</td>
<td>&gt;200</td>
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# Chronic lung disease

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<tr>
<td><strong>CXR</strong></td>
<td>N in 50% Alveolar or interstitial infiltrates</td>
<td>Reticulonodular shadowing (miliary)</td>
<td>Consolid(^n)</td>
<td>Hilar LN(\uparrow) Reticulonodular shadowing</td>
</tr>
<tr>
<td><strong>Rx &amp; prognosis</strong></td>
<td>Self-limiting ART</td>
<td>ART Steroids</td>
<td>Steroids</td>
<td>Self limiting Steroids</td>
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*Clin Chest Med 34 (2013) 293–306*
Recurrent viral &/or bacterial LRTI

Obliterative bronchiolitis

Lymphocytic interstitial pneumonitis

Bronchiectasis
Bronchiectasis

Cumulative – reccurrent LRTIs (PCP)
cigarette smoking
Chronic cough/variable sputum
Coarse crackles ± wheeze ± clubbed
Sputum: mixed growth/ S pneumoniae/H influenzae → S aureus/P aeruginosa
Rx: refer to specialist
Summary

• Effects of HIV itself on PFTs
• Chronic lung disease (CLD) syndromes
• Clinical features of some CLD