Clinical presentation
Opportunistic infections

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Case KB 18 year-old HIV-infected girl

- Perinatally HIV infection diagnosed at 11 years of age
- CDC cat C3: Lymphoid interstitial pneumonitis, wasting
  - CXR: bilateral interstitial infiltration
  - No Hx. of contact TB
  - Sputum AFB; negative * 3 days
- BW  16 kg, 117 cm
- CD4  = 1%, 30 cell/mm3

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<table>
<thead>
<tr>
<th>Date</th>
<th>Age (yr)</th>
<th>BW (kg)</th>
<th>Ht (cm)</th>
<th>CD4 % (count)</th>
<th>Viral load (copies/ml)</th>
<th>Clinical</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/2003</td>
<td>11</td>
<td>16</td>
<td>117</td>
<td>1 (30)</td>
<td></td>
<td>LIP</td>
<td>d4T+3TC+NVP</td>
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<tr>
<td>05/2004</td>
<td>12</td>
<td>17</td>
<td>118</td>
<td>7 (176)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02/2007</td>
<td>15</td>
<td>23</td>
<td>135</td>
<td>14 (274)</td>
<td>23,200</td>
<td>chronic cough</td>
<td>AZT+3TC+LPV/r</td>
</tr>
<tr>
<td>09/2007</td>
<td>15</td>
<td>27</td>
<td>139</td>
<td>14 (271)</td>
<td>14,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>02/2010</td>
<td>18</td>
<td>34</td>
<td>145</td>
<td>2 (28)</td>
<td>147, 647</td>
<td>Fever, purulent productive cough</td>
<td>TDF+3TC+LPV/r Bactrim</td>
</tr>
<tr>
<td>Date</td>
<td>BW (kg)</td>
<td>CD4 % (count)</td>
<td>Clinical</td>
<td>Treatment</td>
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<tr>
<td>02/2010</td>
<td>34</td>
<td>2 (28)</td>
<td>Fever, purulent productive cough Sputum AFB –ve * 3 days Dx: infected bronchiectasis</td>
<td>TDF+3TC+LPV/r Bactrim Amoxi-clav</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>09/2010</td>
<td>35</td>
<td>1 (7)</td>
<td>Cough, bloody sputum, no fever, dyspnea Sputum AFB &amp;PCR for TB* 3 days : negative Sputum C/S for TB; pending Dx: infected bronchiectasis</td>
<td>TDF+3TC+LPV/r Bactrim Amoxi-clav Ciprofloxacin</td>
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<tr>
<td>12/2010</td>
<td>30</td>
<td>1(2)</td>
<td>Fever* 10 days with productive cough Oral candidiasis</td>
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22 Feb 2010

20 Sep 2010
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13 Dec 2010
Q1: What is the most likely diagnosis?

A. Infected Bronchiectasis
B. Pulmonary tuberculosis
C. Pulmonary Norcardiosis
D. Rhodococcus pneumonia
E. Cryptococcal pneumonia
Dec 2010: pulmonary problems

<table>
<thead>
<tr>
<th>Date</th>
<th>CD4 % (count)</th>
<th>Clinical</th>
<th>Treatment</th>
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<tbody>
<tr>
<td>13/12/2010</td>
<td>1 (9)</td>
<td>Fever * 10 days with productive cough</td>
<td>INH</td>
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<tr>
<td></td>
<td></td>
<td>CXR; as shown</td>
<td>Rifampicin</td>
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<td></td>
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<td>Sputum AFB –ve * 3 days</td>
<td>Pyrazinamide</td>
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<td></td>
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<td>Sputum gram stain: mixed organism</td>
<td>Ethambutol</td>
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<td></td>
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<td>Blood culture: no growth</td>
<td>Ceftriaxone</td>
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<td>10/01/2011</td>
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<td>Productive cough, wt loss 2 kg/2 wks</td>
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<td></td>
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<td>CXR, sputum AFB, mAFB</td>
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10 Jan 2011
After TB treatment 1 month

Sputum gram stain

Sputum modified AFB

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Q2: What is the most likely diagnosis?

A. Pulmonary tuberculosis
B. Pulmonary tuberculosis- MDR
C. Pnuemonia-nontuberculous mycobacterium
D. Pulmonary Norcardiosis
E. Rhococcocus
# Feb-Apr 2011: pulmonary problems

<table>
<thead>
<tr>
<th>Date</th>
<th>BW (kg)</th>
<th>CD4 % (count)</th>
<th>VL (c/ml)</th>
<th>ART</th>
<th>Clinical</th>
<th>OI Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/2011</td>
<td>29</td>
<td></td>
<td></td>
<td>3TC</td>
<td>Nocardiosis</td>
<td>Co-trimoxazole IV – oral switch</td>
</tr>
<tr>
<td>07/03/2011</td>
<td>28.4</td>
<td>1(16)</td>
<td>32969</td>
<td>TDF/3TC/LPV/r</td>
<td>CXR: decrease RUL infiltration</td>
<td></td>
</tr>
<tr>
<td>19/04/2011</td>
<td>26.6</td>
<td></td>
<td></td>
<td>TDF/3TC/LPV/r</td>
<td>Fever, productive cough, dyspnea</td>
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<td>(6 weeks after ART)</td>
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7 March 2011
Restart ART

19 April 2011
Week 6 ART

Sputum mAFB: positive

Treatment: Co-trimoxazole IV
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Treatment: Co-trimoxazole IV 3 weeks and oral switch on 10 May 2011

Sputum mAFB: negative
Q3: What is the most likely diagnosis?

A. Tuberculoma
B. Cryptococcoma
C. Toxoplasmosis
D. Brain abscess (Nocardia)
E. Progressive multifocal leukoencephalopathy
Nocardia brain abscess-IRIS?

24 May 2011

Surgery: Burr hole
Operative finding:
Frank green pus 22 ml
Gram stain: no organism
AFB & mAFB: no organism
Aerobe/anaerobe culture: neg
Serum crypto antigen: neg

7 Mar 2011: CD4 1%, 16 cell/mm3, HIV RNA 32,969 copies/ml
24 May 2011: CD4 6%, 163 cell/mm3, HIV RNA 863 copies/ml
Nocardia brain abscess-IRIS?

Rx: co-trimoxazole IV 3 weeks (24 May – 16 June 2011)

• Can walk by herself in balance
• Neuro sign: Improved finger to nose Lt. side
• Take ARV regularly
Case summary: Opportunistic infection

An 18 year old perinatally HIV-infected adolescent with poor adherence to ART

**Presentation:** LIP with subacute pneumonia mimicking tuberculosis

**Diagnosis:** Pulmonary nocardiosis

**Complication:** during immune recovery period
  - Worsening of lung abscess
  - Brain abscess

**Outcome:** Survive on second-line ART