OI prophylaxis
When to start, when to stop

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Learning Objectives

- Recognize when to start OI prophylaxis
- Identify challenges for patients when taking OI prophylaxis
- Evaluate cases for stopping OI prophylaxis
Polling question 1: I feel comfortable stopping OI prophylaxis in my patients with HIV

A. Highly confident
B. Somewhat confident
C. Neutral
D. Somewhat uncomfortable
E. Not ready for that yet
Case Presentation

48 yo Eritrean man living with HIV
- Diagnosed in 2003 with a CD4 413
- Was told he did not need treatment
- Has been out of care since
Comes back into care…

… Hospitalized

- Admitted March 2017
- CD4 48/9%
- VL >5,000,000
Work-up in hospital

- B-Cell lymphoma (liver biopsy)
- Cryptoccocemias (sCRAG 1:10)
- Anemia
- Thrombocytopenia
- Acute Pulmonary Embolism and nodules
- CMV Ab+
- Wasting Syndrome
After 1 month…

Has been discharged, is now at follow-up visit
List of meds

- Tenofovir Alafenamide/Emtricitabine (Descovy) daily
- Dolutegravir 50 mg daily (in morning)
- Darunavir/cobicistat (Prezcobix) daily
  - regimen was started empirically in the absence of baseline resistance information? Or intensive ARV therapy due to high VL?
  - will d/c prezcobix when VL UD
More meds

- Azithromycin 600 mg 2 tabs once/week
- Dapsone 100 mg daily
- Valganciclovir 450mg 2 tabs daily
- Fluconazole 200mg 2 tabs daily
And more

- Ferrous gluconate one tab daily (in evening)
- Docusate Sodium BID
- Carvedilol 3.125 BID
- Allopurinol 300mg BID
- Megace suspension 20ml daily (appetite stimulant)
- Zofran 4mg PRN
- Tramadol 50mg PRN
Labs since starting ARVs

- May 2017:
  - CD4 99/5%
  - VL 118
- June 2017:
  - VL 168
Polling question 2: Thoughts?

A. Pill burden
B. OI prophylaxis
C. Prioritizing treatment
D. All of the above
Ols: Fungal disease

- Candidiasis of bronchi, trachea, or lungs
- Candidiasis, esophageal
- Coccidioidomycosis, disseminated or extrapulmonary
- Cryptococcosis, extrapulmonary
- Histoplasmosis, disseminated or extrapulmonary
- Pneumocystis carinii pneumonia (PCP) (P. jiroveci)
OIs: Bacterial disease

- Mycobacterium avium complex or M. kansasii, (NTM) disseminated (bloodstream) or extrapulmonary
- Mycobacterium tuberculosis, any site (pulmonary or extrapulmonary)
- Mycobacterium, other species or unidentified species, disseminated or extrapulmonary
- Pneumonia, recurrent
- Salmonella septicemia, recurrent
OIs: Viral disease

- Cytomegalovirus disease (other than liver, spleen, or nodes)
- Cytomegalovirus retinitis (with loss of vision)
- Herpes simplex: chronic ulcer(s) (greater than 1 month's duration)
- Herpes zoster virus (HZV): Shingles
- Herpes simplex virus (HHV8): Kaposi’s sarcoma
- Human papilloma virus (HPV): Cervical cancer; Anal warts
- Wasting syndrome due to HIV
- Encephalopathy due to HIV
Ols: Protozoal and other diseases

- Cryptosporidiosis, chronic intestinal (greater than 1 month's duration)
- Isosporiasis, chronic intestinal (greater than 1 month's duration)
- Toxoplasmosis of brain
- Progressive multifocal leukoencephalopathy
<table>
<thead>
<tr>
<th>Opportunistic Infection</th>
<th>Indication</th>
<th>Preferred Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCP</td>
<td>CD4 &lt;200, Oropharyngeal candidiasis, CD4 &lt;14%, h/o AIDS-defining illness, CD4 &gt;200 but &lt;250</td>
<td>TMP-SMX DS daily OR Dapsone 100 mg PO daily or 50 mg PO BID</td>
</tr>
<tr>
<td></td>
<td>Toxoplasmosis</td>
<td>Toxoplasma IgG+ and CD4 &lt;100 Seronegative patients on PCP PPx not active against toxo, retested for toxo if CD4 &lt;100. Start PPx if seroconversion</td>
</tr>
<tr>
<td>MAC</td>
<td>CD4 &lt;50, after r/o disseminated MAC</td>
<td>Azithromycin 1200 mg PO once weekly OR Clarithromycin 500 mg PO BID</td>
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<tr>
<td>Histoplasmosis</td>
<td>CD4 ≤150 and high risk</td>
<td>Itraconazole 200 mg PO daily</td>
</tr>
<tr>
<td>Coccidioidomycosis</td>
<td>CD4&lt;250 and new positive IgM or IgG</td>
<td>Fluconazole 400 mg PO daily</td>
</tr>
</tbody>
</table>
April 30th, 2012

Do We Really Need Primary Prophylaxis for OIs Anymore?

I’m currently on the inpatient consult service and just saw a guy who fits the typical profile of many hospitalized HIV patients in 2012:

- Low CD4 (in this case, 120)
- Irregular to non-existent outpatient care before admission (lots of no-shows, cancellations, etc)
- Has received several prescriptions for antiretroviral therapy but for a whole variety of reasons, hasn’t been taking it
Points to ponder

- "First, what this man needs to do is take HIV therapy, and I wanted the regimen to be as simple as possible. Why clutter it with that giant Bactrim tablet?"

- "Second, assuming we can actually get him on ART, do we have any evidence whatsoever that primary prophylaxis for PCP is still necessary? All the studies of PCP prophylaxis were done way before we had effective HIV therapy — in fact, this one (for you history buffs) was done in the mid-1980s, before we had any antiretrovirals at all."

- From John Brooks: No trial done to demonstrate difference between primary OI PPx vs none when starting ARVs. Swiss cohort tried to show this. Incidence in the US is so low that researchers can’t get good p-value
Polling question 3: What is your take on this

A. I agree, why start OI PPx if the patient will have trouble taking all these meds
B. No, I disagree, always prescribe OI PPx
C. This is a case-by-case issue
D. I’ve already had such discussion with patients
E. C and D
F. A, C, D
Stopping OI prophylaxis

- **US Department of Health and Human Services, AIDSInfo.**

  Guidelines for the Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents.
  
## The basics (take home point: only if taking ART)

<table>
<thead>
<tr>
<th>Opportunistic Infection</th>
<th>Discontinuing 1ary PPx</th>
<th>Discontinuing 2ary PPx/Chronic Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PCP</strong></td>
<td>CD4 increased from &lt;200 to &gt;200 cells/µL for &gt;3 months</td>
<td>Same as 1ary, (if PCP Dx when CD4&gt;200, lifelong PPx)</td>
</tr>
<tr>
<td><strong>Toxoplasmosis</strong></td>
<td>CD4 increased from &lt;200 to &gt;200 cells/µL for &gt;3 months</td>
<td>Completed therapy, no Sx, and CD4 count &gt;200 for &gt;6 months</td>
</tr>
<tr>
<td><strong>MAC</strong></td>
<td>CD4 &gt;100 cells/µL for ≥3 months</td>
<td>Completed ≥12 months of therapy, and No Sx, and CD4 &gt;100 for &gt;6 mos</td>
</tr>
<tr>
<td><strong>Histoplasmosis</strong></td>
<td>CD4 &gt;150 cells/µL for 6 months</td>
<td>Itraconazole Tx &gt;1yr, CD4 &gt;150, serum Histo Ag &lt;2 ng/ml</td>
</tr>
</tbody>
</table>
| **Coccidioidomycosis**  | CD4 ≥250 cells/µL with VL UD | If meningeal: forever  
If focal PNA: same as 1ary with CXR surveillance  
If diffuse pulmonary dz: 12 mos Tx, after discussion with ID |
Thank you
References
