### Topic: Pneumocystis Pneumonia (PCP)

#### Did you know?

It is referred to as PCP because the organism was once called *pneumocystis carinii* but was later changed to *pneumocystis jirovecii*

#### Primary Prophylaxis

**Indications:**
- CD4 count < 200 cells/mm³ or CD4% < 14%
- CD4 count > 200 but < 250 cells/mm³ and if CD4 cell count monitoring is not possible
- Oropharyngeal candidiasis
- History of AIDS-defining illness

**Preferred prophylaxis agents:**
- Trimethoprim-Sulfamethoxazole (TMP-SMX) 1 double-strength (DS) or single-strength (SS) tablet by mouth (PO) daily

**Indication for discontinuing primary prophylaxis:**
- CD4 count increased from < 200 cells/mm³ to ≥ 200 cells/mm³ for at least 3 months in response to ART

#### Clinical Features:
- Sub-acute onset of progressive dyspnea, especially on exertion
- Fever
- Non-productive cough
- Chest discomfort
- Hypoxemia
- Diffuse, bilateral, symmetrical interstitial infiltrates in a butterfly pattern
- Ground-glass opacities on computed tomography (CT) scan

#### Risk Factors

- **Unknown HIV status**
- **HIV positive and not receiving ongoing treatment**
- **CD4 cell count < 200 cells/mm³**
- **Recurrent bacterial pneumonia**
- **Previous episodes of PCP**
- **Oral thrush**
- **CD4 cell percentage < 14%**
- **Unintentional weight loss**

#### Treatment

**Mild to Moderate PCP**
- **Total duration = 21 days**
  - **TMP 15-20 mg/kg/day and given PO in 3 divided doses or**
  - **TMP-SMX DS – 2 tablets PO three times daily (TID)**

**Moderate to Severe PCP**
- **Total duration = 21 days**
  - **TMP 15-20 mg/kg/day IV given every 6 or 8 hours (q6h or q8h)**
  - **May switch to PO after clinical improvement**

**Adjunctive Corticosteroids**
- For moderate to severe PCP with 1 of the following criteria:
  - PaO₂ < 70 mmHg at room air or
  - Alveolar-arterial O₂ gradient ≥ 35 mmHg
  - Taper dosing – start within 72 hours
    - Days 1-5: 40 mg PO twice daily (BID)
    - Days 6-10: 40 mg PO daily
    - Days 11-21: 20 mg PO daily

#### References:


---

**This segment was brought to you by the Subcommittee of Antimicrobial Stewardship representing KentuckyOne Health – Louisville Market.**

Chair: Forest W. Arnold, DO, MSc, FIDSA

**For more information please email AshRos@ulh.org, jharting@sullivan.edu, or JamesStahl@KentuckyOneHealth.org.**