Strategies for Managing Early Coccidioidal Infections: How Much is Enough?

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Primary Care of Coccidioidomycosis

Compatible Symptoms

Diagnostic Studies
Serology or Cultures

Risk Factors Present?

Focal Signs or Symptoms?

???

Rest

Specialty Referral and / or Treatment
Coccidioidomycosis
Spectrum of Disease

100 Infections

60 No Symptoms

40 Symptoms

37 Recover Without Rx

Life-Long Immunity

Recover ≠ Mild
Common “Mild” Valley Fever

• Manifestations:
  – Cough, chest pain, fever, weight loss
  – Bone and joint pains (a.k.a. Desert Rheumatism)
  – Skin rashes (painful or intense itching)
  – Fatigue

• Course of illness:
  – Weeks to months
  – 1 of 4 college students are sick for > 4 months
  – 4-fold more drop a semester for Valley Fever than for Mononucleosis
Management
Low Risk, Simple Early Infection

• Continued office visits
• Check for new symptoms or signs
• Serial body weights
• Repeat X-rays
• Repeat coccidioidal antibody testing
• Most patients recover without antifungal drugs
How much is Enough?

• Management of common symptoms
  – Headaches
  – Bone and joint pains
  – Fatigue

• Radiographic monitoring of pneumonia

• Antifungal drugs for uncomplicated VF
Headaches

- Coccidioidal meningitis:
  - Headache most common symptom
- Coccidioidal pneumonia:
  - Headache reported in 20%

- Who gets a lumbar puncture?
  - All?
  - Some?
Bone and joint pains

- “Desert Rheumatism”
  - Usually symmetrical
  - Ankles and knees most common
  - Joint effusions are rare
  - Pathogenesis is “immunologic”

- Best approach to evaluate for dissemination
  - Plain films?
  - Radionuclide scan?
  - CT?
  - MRI?
Fatigue: Typical Problem

- Primary coccidioidal pneumonia diagnosed serologically in an otherwise healthy active person
- Over several weeks, weight returns to normal, fever resolves and pulmonary symptoms gone. ESR becomes normal. CF low or neg.
- However, patient complains of profound inability to carry out normal activities.
- How should this be managed?
Potential Causes of Fatigue

- Circulating cytokines or altered cell receptors?
- Physical deconditioning because of decreased activity.
- Lack of experience by the patient with subacute or chronic disability.
- Patient with excessive expectations of own performance.
Management Strategies

- Exclude objective evidence of tissue destruction or focal lesions.
- **Patient Education**
  - Prolonged fatigue common and resolves
  - No evidence of permanent damage
  - Deconditioning and unrealistic expectations
- **Patient Actions**
  - Keep a journal
  - Get a trainer
- **Avoid starting antifungal drugs**
Radiographic monitoring

Typical findings
- Unilateral infiltrate
- Hilar adenopathy
- Pleural effusion (~10%)
- “Normal Chest X-ray” in a third of seropositive patients

Role of CT scans
- If the Chest X-ray is abnormal?
  - Always/Never
- If the chest X-ray is “normal.”
  - Always/Never
- In follow-up
  - Always
  - Only if X-ray was “normal.”
  - Only to help a surgeon
Coccidioidomycosis Spectrum of Disease

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2005 IDSA Guidelines
Treatment of Coccidioidomycosis

“How best to manage primary respiratory coccidioidal infections is an unsettled issue because of the lack of prospective controlled trails.”
Median days to ≥50% decline in total clinical score

P = 0.899

Ampel et al. CID 2009
Outcome of Subjects
(> 1 month follow-up)

• 50 not treated
  – Median follow-up: 3.1 years
  – All without complications
• 51 treated
  – Median follow-up: 2.9 years
  – 38 off-therapy and without complications
  – 5 remained on treatment
  – 8 had relapses
    • 5 with pulmonary disease
    • 3 with extrapulmonary dissemination

Ampel et al. CID 2009
Antifungals for Primary Coccidioidal Pneumonia

- Always
  - Yes/No
- If not always, then
  - Patient’s call?
  - Illness > ~4 weeks?
- For symptoms of
  - Night sweats/weight loss?
  - Chest pain/cough?
  - Skeletal?
  - Fatigue?

- Dose of oral azole
  - 200 mg/day
  - 400 mg/day
  - 800 mg/day

- Duration
  - Less than 1 month
  - 1 – 2 months
  - 3 – 6 months
  - 1 year or longer?
Thank-you
Valley Fever Center for Excellence