

Coccidioidomycosis Care Guide

August 2013



CALIFORNIA CORRECTIONAL
HEALTH CARE SERVICES

SUMMARY

GOALS

- ✓ Identify patients with signs and symptoms of coccidioidomycosis (“cocci”)
- ✓ Properly diagnose, treat, and monitor cocci patients
- ✓ Know exclusion policy for housing in the cocci hyperendemic area
- ✓ Recognize patients at risk for disseminated coccidioidomycosis

ALERTS

- Suspect the disease– Determine exposure history, including moving through prisons in cocci endemic regions
- Consider TB infection
- Monitor for symptoms of disseminated disease
- Respond appropriately to rising cocci titers

- Coccidioidomycosis (Valley Fever or “cocci”) is caused by inhalation of the fungal spores of the genus *coccidioides*. It is most prevalent in the southwest US, including the southern and central valleys of California. In CDCR, cocci is considered hyperendemic at PVSP, ASP, COR, SATF, CCI, WSP, KVSP, and NKSP, with the highest rates of cocci at PVSP followed by ASP.
- Valley Fever or cocci usually causes a primary pulmonary infection which often resolves without therapy. In some cases a chronic pulmonary infection or, rarely, disseminated disease (extrapulmonary infection) may develop.
- Coccidioidomycosis is not transmitted from person to person so isolation of cases is not necessary.

DIAGNOSTIC CRITERIA/EVALUATION (SEE PAGES 2, 3, AND 4)

1. General

PRIMARY PULMONARY COCCI

- Symptoms may be very mild and self limited
- Less than half of infected patients seek care

CHRONIC COCCIDIOIDOMYCOSIS

Persistent Pulmonary Disease (with or without extrapulmonary findings)

- Develops in about 5% of those infected with cocci:
 - Residual pulmonary nodule(s)
 - Coccidioidal cavities
 - Pneumonia—fibrocavitary or Reticulonodular

Disseminated (Extrapulmonary) Disease

- Develops in < 1% of all who acquire cocci infection or in about 5% of those with recognized infections
 - May occur at any site, most common:
 - Skin or subcutaneous soft tissue
 - Skeleton (bones or joints)
 - Meninges, central nervous system
 - May be rapidly fatal
 - May develop from symptomatic or asymptomatic pulmonary infections
 - May be initial presentation of cocci or manifest later

2. Symptoms

PRIMARY PULMONARY COCCI

- Cough, dyspnea, fever, fatigue, night sweats, weight loss, arthralgias, myalgias, headache, chest pain

CHRONIC COCCIDIOIDOMYCOSIS

Persistent Pulmonary Disease (with or without extrapulmonary findings)

- Patients may have increasing pulmonary involvement with persistent symptoms for months or years

Disseminated (Extrapulmonary) Disease

- Worsening headaches, bone pain, persistent progressive fatigue, fever, night sweats, new unexplained skin lesions
- Disease may be progressive in spite of therapy

3. Exam

PRIMARY PULMONARY COCCI

- Nonspecific. May have signs of pneumonia, fever, erythema nodosum or multiforme

CHRONIC COCCIDIOIDOMYCOSIS

Persistent Pulmonary Disease (with or without extrapulmonary findings)

- Nonspecific, may have signs of chronic infiltrative pulmonary disease

Disseminated (Extrapulmonary) Disease

- Weight loss, progressive debility, skin lesions, bone mass or bone pain, neurologic abnormalities, joint pain or swelling, lymphadenopathy

4. Lab Findings

PRIMARY PULMONARY COCCI

- Possible eosinophilia or increased ESR, positive qualitative cocci serologies

CHRONIC COCCIDIOIDOMYCOSIS

Persistent Pulmonary Disease (with or without extrapulmonary findings)

- Persistent low level ($\leq 1:4$) or rising quantitative cocci serology (clinical correlation required)

Disseminated (Extrapulmonary) Disease

- Elevated Erythrocyte Sedimentation Rate (ESR), rising quantitative serologies, $\geq 1:8$ (See page 4)

5. Diagnostic Studies

PRIMARY PULMONARY COCCI

- CXR—Negative or unilateral pneumonic infiltrate or ipsilateral hilar adenopathy

CHRONIC COCCIDIOIDOMYCOSIS

Persistent Pulmonary Disease (with or without extrapulmonary findings)

- CXR -Progressive interstitial changes, fibrosis, volume loss, inflammation, possible cavitory lesions, including thin walled cavity, or stable nodule

Disseminated (Extrapulmonary) Disease

- Lumbar puncture—significant antibody titer
- Bone scan—suspicious lesion(s)
- Abnormal CT / MRI
- Fungal elements identified on biopsy

TREATMENT OPTIONS

Primary pulmonary cocci: May not need treatment. Determined on a case by case basis in discussion with the patient, based on risk factors (page 5), illness severity indicators, (page 5) and findings on follow-up of patient's symptoms, exam, and serology every two to four weeks.

If treated: fluconazole 400 mg daily or itraconazole 200 mg twice daily until titer is stabilized at $\leq 1:4$ and asymptomatic.

Chronic pulmonary and disseminated cocci: Often requires extended or lifelong antifungal therapy and occasionally surgical interventions. Best co-managed with infectious disease subspecialist familiar with cocci.

MONITORING

In all cases, careful monitoring of the patient's symptoms and overall condition is necessary as well as monitoring of cocci titers.