Valley fever diagnosis often missed

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For patients with pneumonia or ongoing influenza-like symptoms who live in or have visited the west or southwest United States, especially Arizona and central California, infectious diseases experts recommend physicians suspect valley fever, an often-overlooked fungal infection. Early diagnosis ensures the best management and reduces unneeded tests and treatment, note updated guidelines released by the Infectious Diseases Society of America (IDSA) and published in the journal Clinical Infectious Disease.

Every year, an estimated 150,000 people get the infection, called coccidioidomycosis, originally nicknamed San Joaquin Valley fever, and about 160 die, note the guidelines. Valley fever is endemic in desert regions ranging from western Texas, Arizona and northern Mexico to the central San Joaquin Valley in California, as well as an area in south central Washington State. Some areas in Central and South America harbor the fungi as well.

The fungi that cause the infection - *Coccidioides immitis* and *Coccidioides posadasii* - live in desert soil. The fungal spores become airborne when wind blows the dust around, are easily inhaled and settle deep in the lungs, causing pneumonia, a lung infection that can range from mild to severe.

"It's an equal opportunity bug, and everyone who is exposed has the same chance of getting infected," said John N. Galgiani, MD, lead author of the guidelines, professor at the University of Arizona College of Medicine and director of the Valley Fever Center for Excellence,

Tucson. "In many patients it's more debilitating than mononucleosis. These patients feel horrible, they can't get out of bed or go to work and often they are sick for weeks or months. Many worry they have cancer or another disease, so getting correctly diagnosed puts a name to the illness and dispels that fear."

The updated guidelines - written by a multidisciplinary committee led by infectious diseases specialists - are now much more geared towards primary care clinicians who are typically the first to see and treat patients with pneumonia. They may overlook valley fever as a potential cause of the illness and prescribe unnecessary tests (such as blood and imaging tests and biopsies) and therapy (such as antibiotics or steroids).

"Valley fever is underdiagnosed in part because past guidelines were directed to the specialists, whereas most of these patients initially see their primary care physicians, many of whom aren't aware just how common this infection is," said Dr. Galgiani. "About a third of cases of pneumonia in Arizona are caused by valley fever. Doctors need to ask patients with pneumonia about their travel history and if they've recently traveled to endemic areas, and need to consider valley fever."

While 60 percent of people with valley fever have a mild infection with few or no symptoms, others may have fever, fatigue, cough, headache, chest pain, skin rash and joint aches. In extreme cases it can cause severe pneumonia, holes in the lungs (cavities), lung nodules, skin sores and meningitis. Pregnant women and people who are immunosuppressed (those with HIV, who had an organ transplant or are taking medication for rheumatologic disease) or have diabetes are at very high risk of complications.

From 50 to 80 percent of people who are infected don't require medication. Their immune systems eventually will rid their bodies of the infection and they will become immune from future infections.

However, they may benefit from physical therapy and should be seen by a health care provider regularly for two years to ensure their symptoms aren't worsening, the guidelines say.

Those who do need therapy should be treated with an anti-fungal medication such as fluconazole. The medication does not cure the infection but suppresses the symptoms. The guidelines note that some patients with more serious illness, including coccidioidal meningitis, will need to remain on antifungal therapy for life.

The guidelines recommend treatment with fluconazole for women with complications from valley fever who are in their second or third trimester of pregnancy. That is a change from the previous guidelines (published by IDSA in 2005), which recommended pregnant women be treated with amphotericin B, which does not harm the fetus but is highly toxic for the mother and requires intravenous treatment three times a week. Fluconazole is not toxic to the mother, can be taken orally and, while not recommended during the first trimester, appears safe during the second and third trimester, the guidelines note. The infection itself is not harmful to the fetus.

The guidelines note valley fever can be diagnosed with simple blood tests called enzyme-linked immunosorbent assays (EIA), which test for antibodies to the fungus. Because it may take weeks or months for an EIA to show a positive result, taking a culture of the fungus from the sputum is another option.

The guidelines include recommendations for primary care providers who can manage mild and moderate cases of valley fever once they have made the correct diagnosis, Dr. Galgiani said. Patients with complications and more severe infection should be referred to infectious diseases specialists.

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