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HEALTH

What We Need to Know about Valley Fever

by Dominic Dizon, MD

Coccidioidomycosis, or Valley Fever, is an endemic illness caused by the dimorphic fungus *Coccidioides immitis* in the Central San Joaquin Valley. In California, the incidence of coccidioidomycosis is rapidly increasing, going from 2,306 cases reported in 2014, to 8182 in 2017, a 255% increase. Most of these cases were from the counties of Kern, Fresno, Tulare and Kings.

The infection typically starts from direct inhalation



of these fungal spores from the arid soil and peaks in incidence from the months of August through November. Person to person spread of the infection is rare. Once the spores get into the lungs, most patients are able to control the nidus of infection and form chronic calcium granulomata. However, in some patients, the infection can progress and cause chronic symptoms such as cough, fever, night sweats, and weight loss. If these symptoms are ignored and diagnosis and treatment are not initiated within a reasonable amount of time, complications can follow and can include meningitis, bone infections, skin manifestations, and even death.

As with most infections, prevention is key and involves avoiding airborne dust during the long summer months in endemic areas and wearing masks to prevent inhalation of spores when exposure to heavy digging is unavoidable.

Public awareness and education is also important so that both patients and providers have a high index of suspicion when symptoms of coccidioidomycosis are present. Early diagnosis can be sought with the help of blood tests (typically sent to specialized centers of excellence for Valley



Fever such as UC Davis and Kern County Department of Public Health), fluid samples, and tissue specimens. These tests are highly reliable but do take time for results to be finalized, usually 1-2 weeks. Four years ago, I was able to get a research grant and was able to assemble a team at UCSF Fresno and Community Medical Centers to look into a new test using PCR (polymerase chain reaction) technology. The results were astounding, and we were able to validate this Cocci PCR test to give us accurate results within 4 hours. It has now been used extensively at the downtown Fresno CMC lab and was first of its kind in the world.

Diagnosis is key because we do have effective treatment for coccidioidomycosis. It involves typically taking an antibiotic pill daily for about 6 months, or until the infection is cleared.

Hence, the take home messages are: be aware of this endemic disease in the Central Valley and which months most cases are reported, use preventive measures when appropriate, educate yourself and your local providers on typical symptoms of presentation, and know which tests are available locally and regionally so that early diagnosis and treatment can happen.

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