Coccidioidomycosis

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The disease is endemic in the wilderness areas of the southwest of the United States. In addition, foci have been described in Central and South America. Despite the pathogenicity of all *Coccidioides immitis* strains, it is estimated that only 0.2% of cases showed symptoms of deep localisations and/or skin granulomas in the period before 1990. Since then the number of cases has steadily increased not only because of the AIDS epidemic, but also as a result of earthquakes and sandstorms (disturbance of soil structure).

Causative agent

Coccidioides immitis is a dimorphic mould found in its filamentous phase in soil. The pathogenic spores are easily dispersed from dry ground or material. In vivo (parasitic phase) no yeasts are found, but instead spherules, large, spherical elements of 20-80 µm diameter. These spherules contain numerous endospores.

Clinical aspects

60% of those infected exhibit no symptoms or only minor respiratory disorders. These people are coccidioidin-positive. Approximately 40% go on to develop lower respiratory tract infections after 1-3 weeks, sometimes with erythema nodosum or erythema multiforme. The fungus can be spontaneously eliminated but it is preferable to administer azoles. About 5% of patients retain cavities and nodules in their lungs. Exceptionally in people with a normal immune system -but in 100% of AIDS patients- an extrapulmonary form is found with meningitis and bone involvement.

Diagnosis

Spherules are found on direct or histological examination. The culture is relatively atypical and should only be performed in a level 3 laboratory. The coccidioidin skin test can be used for people who suffer a primary infection but anergy (absence of response) is possible in progressive disease. Spherulin is supposedly more sensitive. No cross-reactions have been described. There are other serological tests (latex agglutination, immunodiffusion, complement fixation, ELISA) for the detection of antibodies. PCR demonstrated high sensitivity.

Treatment

Many infections in healthy patients do not require treatment. Only severe infections or infections in

immunosuppressed people needs treatment with itra-, keto- or fluconazole for 3 to 6 months.

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