This 22-year-old white man had a history of gradual weight loss, frequent colds, intermittent cough, and expectoration of small amounts of mucoid sputum for about one year. He denied chest pain and hemoptysis.

Physical examination was entirely normal, including examination of the lungs. Complete blood count and urine examinations were normal, and serologic test for syphilis was negative.
Diagnosis: Coccidioidal Cavity

Because of a preoperative diagnosis of "congenital cyst," a segmental resection of the pulmonary lesion was performed. Smears and cultures from the cavity wall revealed no pyogens and no tubercle bacilli, but showed a heavy growth of Coccidioides immitis. Guinea pig inoculation also yielded C. immitis. Postoperative coccidioidin skin tests using 1:100 and 1:10 dilutions were negative, but coccidioidial complement fixation studies were positive through 1:16 dilution. A chest roentgenogram one year postoperatively revealed a new large cavity in the left lung. This cavity closed spontaneously without therapy. Complement fixation studies have remained positive for five years postoperatively.

From the clinical point of view, at least 60 per cent of the patients with primary coccidioidal infection are asymptomatic and are recognized only by the development of a positive coccidioidin skin test. Routine coccidioidin skin test surveys reveal positive reactions in about 65 per cent of inhabitants in the San Joaquin Valley of central California and 90 per cent of residents in Tucson, Arizona. Skin test surveys in non endemic areas, as Long Beach, California, yield positivity rates of 15 per cent, probably related to the great frequency of travel through the nearby endemic areas. Some patients have symptoms of upper respiratory disease or "influenza." Frequent symptoms are fever, chest ache, cough, malaise, anorexia and pleural pain. The incidence of hemoptysis, usually minimal, varies from 3 to 28 per cent in different series. Arthralgia ("desert rheumatism") may also occur.

From the radiologic point of view, four types of findings are noted: (1) by far the most common, a nonspecific bronchopneumonia; (2) cavities, often thin-walled; (3) hilar adenopathy, which is very suggestive in a patient who has been in an endemic area; and (4) a small dense nodule, the coccidioma, which represents the healed fibrotic residuum. With dissemination, the chest roentgenogram may reveal mediastinal adenopathy or, in acute cases, disseminated miliary or nodular lesions similar to those seen in acute miliary tuberculosis.

Smith et al. stated, "The risk of dissemination being negligible and possibility of contagion very remote, drastic intervention should be reserved for specific indications." A group of patients with coccidioidal cavities treated conservatively has been compared with one in which resection was performed. The nonsurgical group had no complication and no new cavity. In the surgical group, bronchopleural fistula and empyema developed in 29 per cent of the patients, and 20 per cent developed new coccidioidal cavities postoperatively. Review of 135 cases with coccidioidal pulmonary cavitation reveals that a conservative nonsurgical regimen indicated unless (1) the cavity is over 4 cm. in diameter, (2) the cavity is enlarging significantly, or (3) there is recurrent, severe hemoptysis.

References

Myocardial Responses to Chelation

Hypocalcemia was induced in 58 subjects by the intravenous injection of from 0.5 to 4 gm. of the chelating agent, disodium EDTA. Chelation abolished ectopic ventricular beats, terminated ventricular tachycardia, and produced improvement of A-V nodal conduction in heart block. There were exceptions to these characteristic actions and this variability of responses prohibits the use of disodium EDTA in the diagnosis of digitalis toxicity. However, chelation offers promise in the short-term management of ventricular arrhythmias due to digitalis overdosage. Such therapy appears to be particularly indicated if these arrhythmias occur in the presence of impairment of A-V nodal conduction.