

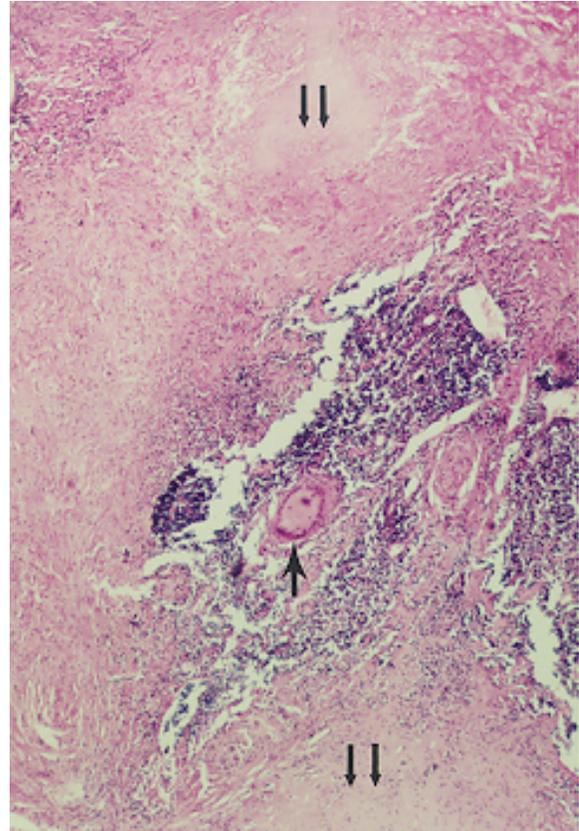
TUBERCULOSIS

Caused by microbacterium tuberculosis, or the Koch bacillus, tuberculosis remains the single most important bacterial infection worldwide. Most exposed individuals develop only an asymptomatic infection. A person with a positive tuberculin test does not necessarily have active disease. American Indians, African-Americans, and Africans are especially apt to contract the disease which flourishes wherever there is poverty and lack of adequate medical care. Recently, AIDS-associated tuberculosis has become important in the United States and follows a course unlike other tubercular infections.

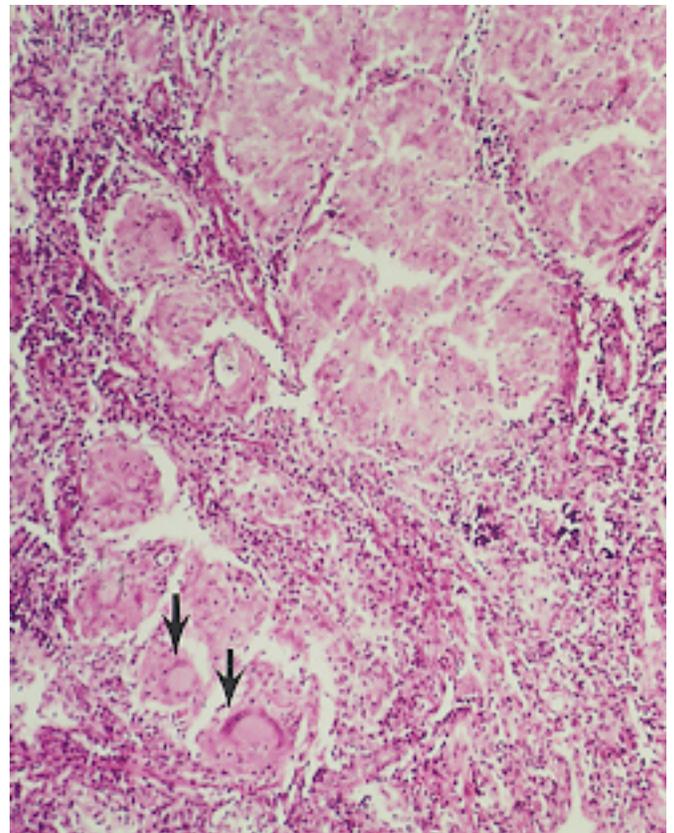
Two species of tubercle bacilli infect humans. The first, tuberculosis bovis, acquired from milk from diseased cows and producing pharyngeal and intestinal lesions, is now rare in the United States. The second, tuberculosis hominis, is transmitted by respiratory channels.

Tuberculosis is a granulomatous disease with 0.5 to 2 mm. collections of modified macrophages called epithelioid cells surrounded by a rim of lymphocytes. The granuloma characteristically shows a Langhans or foreign body type giant cell which may have as many as fifty nuclei characteristically arranged about the periphery of the cell. This granuloma is referred to as a tubercle and has central caseous necrosis as a classic feature. But similar tubercles also occur in other diseases and tubercle bacilli need to be demonstrated if an accurate diagnosis is to be made.

Tuberculosis, node. Caseous necrosis (double arrows) with a typical Langhans giant cell (single arrow) and its peripherally arranged nuclei and surrounding lymphocytes.



Sarcoidosis. Multiple Langhans giant cells (arrows) and granulomatous tissue arranged in nodules that look somewhat like tuberculosis but without the central caseation that distinguishes tuberculous granulomata.



CLINICAL ASPECTS

Primary tuberculosis is considered as an infection in a person who never previously had contact with the tubercle bacillus. In general, primary tuberculosis remains a silent process that is detected only by tuberculin testing or by routine chest X-ray which may show a focus of calcification in the lung (Ghon focus). Secondary tuberculosis ordinarily represents reactivation of an asymptomatic primary lesion and may occur many years later. Or new tuberculous organisms from another source may start the secondary phase.

After the lesion has been identified by the finding of acid-fast tubercle bacilli, drug therapy should afford successful treatment in almost every case. Recently, tuberculosis associated with AIDS has presented special problems.

Tuberculous laryngitis, now seldom seen in countries with modern medical care, causes severe sore throat brought about by the coughing up of tubercle bacilli from established pulmonary disease. There is fever and wasting. Sometimes the epiglottis and posterior part of the larynx look like carcinoma so the diagnosis may come from a hurried biopsy of the epiglottis done before a chest X-ray is made.