

Lecture no 3

Mycobacterium leprae

The organism cause leprosy or Hansen's disease

Important properties

M. leprae has not been grown in the laboratory, either on artificial media or in cell culture. It can be grown in experimental animals, such as mice and armadillo appears to be reservoir for human infection in the Mississippi delta region where these animals are common. The optimal T for growth 30°C is lower than body T it is there for grows preferentially in the skin and superficial nerves. It grows very slowly, with doubling time of 14 days. One consequence of this that antibiotic therapy must be continued for a long time, usually several years.

Laboratory diagnosis

In lepromatous leprosy the bacilli are easily demonstrated by performing an acid-fast stain of skin lesion or nasal scraping. Lipid-laden macrophage called foam cells containing many acid fast bacilli to the drug.

In the tuberculoid form, very few organisms do not grow on artificial media. No serologic tests for syphilis, such as the VDRL and RPR test occur frequently in patients with lepromatous leprosy. The diagnosis can be confirmed by using the polymerase chain reaction (PCR).

Treatment

The mainstay of therapy is dapsone, but because of sufficient resistance to the drug has emerged, combination therapy is now recommended e.g. dapsone, rifampin. For the tuberculoid form. Treatment is given for at least 2 years or until the lesions are free of organisms.