

Pathology of Hansen's Disease

Calvin Smith*

Department of Public Health, Federation University, Ballarat, Australia

DESCRIPTION

Leprosy also called as Hansen's disease which is an infection caused by a slow-growing bacterium called *Mycobacterium leprae*. Early diagnosis and treatment can cure the disease. People with leprosy can continue to work and lead active lives during and after treatment. Leprosy was a highly contagious and devastating disease once upon a time but now it does not spread easily and the treatment is to be highly effective. But if it is left untreated, it might lead to nerve damage resulting in paralysis and blindness.

Symptoms

Symptoms of leprosy may appear in a person within a year, but in some people it may take 20 years or more for the symptoms to appear. Transmission occurs when a healthy person comes in contact with the droplets of diseased person while coughing or sneezing. Hansen's disease has a low pathogenicity, and 95% of people infected with *Mycobacterium leprae* do not develop symptoms. Genetic factors and immune function may influence a person's susceptibility to disease.

Common symptom

One of the most common symptoms of various types of leprosy is runny nose, dry scalp, eye problems, skin lesions, muscle weakness, reddish skin, and flattened nose due to destruction of nasal cartilage, changes in vocalization and other aspects of speech. Also, testicular atrophy can occur.

Causative organism

Mycobacterium leprae and *Mycobacterium lepromatosis* are mycobacteria that cause leprosy. *Mycobacterium lepromatosis* is a relatively newly identified *Mycobacterium*, isolated in 2008 from a fatal case of diffuse lepromatous leprosy. *Mycobacterium lepromatosis* is clinically indistinguishable from *Mycobacterium leprae*. *Mycobacterium leprae* are aerobic, rod-shaped intracellular mycobacteria. *Mycobacterium leprae* is surrounded by a waxy cell envelope coating that is characteristic of genus *Mycobacterium*.

Treatment

Leprosy is transmitted through the upper respiratory tract. Older studies suggested that the main route of infection was the skin, but more recent studies increasingly support that the infective route is respiratory tract. Leprosy is cured with polytherapy (multiple drug therapy). Leprosy is treated for 6 months using the drugs such as dapsone, rifampicin and clofazimine. The same drug is used for 12 months in the treatment of multibacillary leprosy. Many other antibiotics can also be used for the treatment. About 30% of people with leprosy suffer from nerve damage. Nerve damage can be cured with early treatment, but it becomes permanent if proper treatment is not given or if treatment is delayed for several months. Damage to nerves can lead to loss of muscle functioning and may lead to paralysis as well. It can also cause sensory disturbances and numbness, which can lead to additional infections, ulcers, and joint deformities. The average incubation period is around 5 years. Symptoms may begin to be noticed within the first year or up to 20 years after infection. The first noticeable sign of leprosy is often the development of pale or pink patches on the skin that are insensitive to temperature and pain.

Risk factors

The greatest risk factor for developing Hansen's disease is contact with other leprosy patients. A person who has been in contact with a leprosy patient is five to eight times more likely to develop leprosy than a member of the general population. The risk of developing leprosy might arise due to certain diseases, malnourishment or even due to mutations. However, not everyone who is infected with *Mycobacterium leprae* develops symptoms.

CONCLUSION

There are no recommended tests to diagnose asymptomatic latent leprosy. Few people with latent leprosy have a positive anti-PGL-1 test. The presence of *Mycobacterium leprae* bacterial DNA can be confirmed using a polymerase chain reaction (PCR)-based technique. While this molecular test alone is not sufficient to

Correspondence to: Calvin Smith, Department of Public Health, Federation University, Ballarat, Australia, E-mail: calvin11@stvincents.com.au

Received: 17-Jun-2022, Manuscript No. MDTL-22-19016; **Editor assigned:** 20-Jun-2022, PreQC No. MDTL-22-19016 (PQ); **Reviewed:** 04-Jul-2022, QC No. MDTL-22-19016; **Revised:** 11-Jul-2022, Manuscript No. MDTL-22-19016 (R); **Published:** 20-Jul-2022, DOI: 10.35248/2161-1068-22.12.290.

Citation: Smith C (2022) Pathology of Hansen's Disease. *Mycobact Dis*. 12.290.

Copyright: © 2022 Smith C. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

diagnose an individual, this approach can be used to identify people who are at increased risk of developing or transmitting

leprosy. Leprosy can be treated within 6-8 months, but its diagnosis at an early stage is crucial.