

# LEPROSY

## (HANSEN'S DISEASE)



Source : Google

# INTRODUCTION

Leprosy(Hansen's disease) is a chronic infectious disease caused by **M.leprae**.

It affects mainly the peripheral nerves.

It also affects the skin, muscles, eyes, bones, testes and internal organs.



# EPIDEMIOLOGY

## World :

Worldwide, two or three million people are estimated to be permanently disabled because of leprosy.

**India** has the greatest number of cases, with **Brazil** second and **Indonesia** third.

## India :

Leprosy is widely prevalent in India. Although the disease is present throughout the country, the distribution is uneven. After introduction of MDT(Multidrug therapy) in the country, the recorded leprosy case load has come down from 57.6 cases per 10,000 population in 1981 to less than one case per 10,000 population at national level in December 2005.

34 states/UTs had already achieved the level of leprosy elimination i.e. **PR (Prevalence rate)** of less than 1 case per 10,000 population.

As on 31<sup>st</sup> march 2017, 495 districts out of 682 have **ANCDR (Annual new case detection rate)** less than 10 per lakh population, 101 districts more than 20 per lakh population, and only 23 districts are with more than 50 per lakh population and 3 districts reported ANCDR of more than 90 per lakh population.

- In **2017** PR in India is about **0.66** per 10,000 population and ANCDR is about **1.02** per 10,000 population.

# CLINICAL FEATURES

Leprosy is clinically characterized by one of the following **cardinal features**:

- i. Hypopigmented patches
- ii. Partial or total loss of cutaneous sensation in the affected areas
- iii. Presence of thickened nerves
- iv. Presence of acid-fast bacilli in the skin or nasal smears

**Signs of advanced disease are striking:**

Presence of nodules or lumps especially in the skin of the face and ears,  
Plantar ulcers, Loss of fingers or toes,  
Nasal depression, Foot-drop,  
Claw toes etc.



Source : From Google

# MODE OF TRANSMISSION

The mode of transmission of leprosy has not been established with certainty. The following theories are frequently debated:

**1. Droplet infection** : The possibility of this route of transmission is based on (a) the inability of the organism to be found on the surface of the skin (b) the demonstration of a large number of organisms in the nasal discharge (c) the high proportion of morphologically intact bacilli in the nasal secretions

**2. Contact transmission** : Numerous studies indicate that leprosy is transmitted from person to person by close contact between an infectious patient and a healthy but susceptible person.

**3. Other routes** : Bacilli may also be transmitted by insect vector, or by tattooing needles.

# INCUBATION PERIOD

Leprosy has a long incubation period, an average of 5 years because the bacillus *M.leprae* multiplies slowly.

Symptoms can take as long as 20 years to appear.

Failure to recognize early symptoms or signs may contribute to an assumed prolonged period in some patients.

Some leprologists prefer the term “latent period” to incubation period.

# CLASSIFICATION

There are different methods of classification of leprosy e.g. Madrid classification, Ridley-Jopling classification, Indian classification etc. These classification are based on clinical, bacteriological, immunological and histological status of patient.

## **INDIAN CLASSIFICATION**

It is the official classification of the Indian Leprosy Association.

Types of leprosy with characteristics according to Indian classification:

1. **Indeterminate type** : Early cases with one or two vague hypopigmented macules and definite sensory impairment.
2. **Tuberculoid type** : One or two well-defined lesions, which may be flat or raised, hypopigmented or erythematous and are anaesthetic.



**3. Borderline type** : Four or more lesions which may be flat or raised, well or ill-defined, hypopigmented or erythematous and show sensory impairment or loss.

**4. Lepromatous type** : Diffuse infiltration or numerous flat or raised, poorly defined, shiny, smooth, symmetrically distributed lesions.

**5. Pure neuritic type**: Show nerve involvement but do not have any lesion in the skin.

❖ On the basis of the information available, patients could be classified into two groups :

1. Paucibacillary leprosy(1-5 skin lesions)
2. Multibacillary leprosy(more than six skin lesions)

# DIAGNOSIS

1. Clinical examination
  - a. Interrogation
  - b. Physical examination
2. Bacteriological examination
  - a. Skin smear
  - b. Nasal smear
3. Foot-pad culture
4. Histamine test
5. Biopsy
6. Immunological tests
  - a. Tests for detecting cell mediated immunity
  - b. Tests for humoral antibodies (serological tests)

# LEPROSY CONTROL

1. Medical measure
  - Estimation of the problem
  - Early case detection
  - Multidrug therapy
  - Surveillance
  - Immunoprophylaxis
  - Chemoprophylaxis
  - Deformities
  - Rehabilitation
  - Health education
2. Social support
3. Programme management
4. Evaluation

# REFERENCES

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# ***THANK YOU***

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