LEPROSY

LEARNING OBJECTIVES

- The student should know the following
  - Causative organism for leprosy
  - Types of leprosy
  - Clinical presentation
  - Diagnosis
  - Treatment

MYCOBACTERIUM LEPRAE

- The causative organism for leprosy is Mycobacterium tuberculosis.
- Humans are natural hosts.
- The optimal temperature for growth is 30°C, is lower than body temperature.
- It therefore grows preferentially in the skin and superficial nerves.

TRANSMISSION

- Infection is acquired by prolonged contact with patients with lepromatous leprosy.
- In lepromatous leprosy, Mycobacterium leprae is discharged in large numbers in nasal secretions and from skin lesions.

PATHOGENESIS

- The organism replicates intracellularly, typically within skin histiocytes, endothelial cells and Schwann cells of nerves.
- There are two distinct forms of leprosy.
  - Tuberculoid leprosy
  - Lepromatous leprosy

PATHOGENESIS OF TUBERCULOID LEPROSY

- In tuberculoid leprosy, the cell mediated immune response to the organism limits its growth.
- It is the cell mediated immune response that causes nerve damage in tuberculoid leprosy.
- The lepromin skin test is positive.
PATHOGENESIS OF LEPROMATOUS LEPROSY

- In lepromatous leprosy, the cell mediated response to the organism is poor.
- The skin and mucous membrane lesions contain large number of organisms, foamy histiocytes rather than granulomas are found.
- Lepromin skin test is negative.

CLINICAL PRESENTATION

- The incubation period averages several years and the onset of disease is gradual.
- In tuberculoid leprosy, hypopigmented macular or plaque like skin lesions, thickened superficial nerves and significant skin anesthesia of skin lesion occur.
- In lepromatous leprosy, multiple nodular skin lesions occur, resulting in typical leonine facies.
- After onset of therapy, patients with lepromatous leprosy often develop erythema nodosum leprosum (ENL).
- Both were examples of tuberculoid leprosy.
- On the next slide we have lepromatous leprosy.
DIAGNOSIS

- The diagnosis is mainly clinical after looking at skin lesions.
- Lab tests are rarely needed.
- In lepromatous leprosy the bacilli are easily demonstrated by performing an acid fast stain of skin lesions or nasal scrapings.
- In tuberculoid form, very few organisms are seen and the appearance of typical granulomas is sufficient for diagnosis.

TREATMENT

- The mainstay of therapy is dapsone.
- However due to sufficient resistance, combination therapy is used.
- Dapsone + Rifampin + Clofazimine for lepromatous leprosy
- Dapsone + Rifampin for tuberculoid leprosy.
- Treatment is given for two years at least or until the lesions are free of organisms.
- Thalidomide is the drug of choice for severe ENL reactions.

PREVENTION

- Isolation of all lepromatous patients, coupled with chemoprophylaxis with dapsone for exposed children is required.
THANK YOU