Leprosy

WHAT IS IT?
- Leprosy is a chronic communicable disease, resulting from infection with *Mycobacterium leprae*, a relative of the tubercle bacillus. It affects the skin, peripheral nerves and mucous membranes (eyes and respiratory tract). There are two main forms:
  - Tuberculoid leprosy is seen in those with a high resistance and presents as a thickening of the cutaneous nerves and skin lesions;
  - Lepromatous leprosy is seen in those with little resistance and involves many more areas of the body.
- There are intermediate subtypes known as borderline leprosy.
- It is most common in warm, wet areas, especially the tropics and subtropics.

CAUSES
- Intracellular *M. leprae* act on Schwann cells to produce a chronic granulomatous reaction that destroys myelin and underlying nerve cells. This leads to permanent neurological damage.
- Leprosy is spread through respiratory droplets or, in cases of infants, via the placenta. People at risk are generally in close prolonged contact with leprosy patients or living where the disease is common.

SYMPTOMS
- Symptoms may develop slowly due to an average incubation period of seven years.
  - The initial skin lesion, often referred to as indeterminate leprosy, may heal by itself. If it does not heal, the speed of the disease progression will depend on the immune response.
  - Seventy ranges from tuberculoid leprosy, with a low bacterial load and few skin lesions, to lepromatous leprosy where there may be a high bacterial load and widespread infiltration, affecting not only the skin but also, for example, the respiratory tract, eyes and lymph glands.
  - The bacteria thrive in cooler temperatures so affect the peripheral regions of the body.
- Symptoms include:
  - Skin lesions;
  - Damage to small nerves in the skin resulting in reduced sensation and anhidrosis;
  - Peripheral nerve damage – the posterior tibial nerve is usually affected followed by the ulnar, median, lateral popliteal and facial nerves. This can result in weakness beginning with the muscles of the hands and feet;
  - Severe lepromatous leprosy can lead to systemic disease affecting the upper and lower respiratory tract, lymph nodes, testes, kidneys and bones;
  - Blindness through nerve damage and the bacteria infiltrating the eye. Trigeminal nerve damage can lead to impaired corneal sensation and ulceration.

DIAGNOSIS
- Diagnosis is most commonly based on symptoms. Three features are required:
  - Hypopigmented areas of skin with reduced sensation;
  - Thickened peripheral nerves;
  - Acid-fast bacilli in skin smears or biopsies.
- In a small number of cases leprosy bacilli may be seen in smears taken from affected skin.

TREATMENT
- Multidrug therapy is the accepted method as it cures patients, reduces the reservoir of infection and interrupts transmission. It also prevents disability as patients are cured before the disease progresses.
- Leprosy is divided into two types for treatment (World Health Organization, 2005):
  - Paucibacillary, involving one to five skin lesions. Rifampicin and dapsone are given for six months;
  - Multibacillary, involving more than five skin lesions. Rifampicin, clofazimine and dapsone are given for 12 months.

REFERENCES