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LEPROSY: A REVIEW

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ABSTRACT

Leprosy is caused by Mycobacterium lepers and has been known since biblical times. It is still endemic in many regions of the world and a public health problem in brazil. The mechanism of transmission of leprosy consists of rolonged close contact between susceptible and genetically predisposed individuals and untreated multibacillary patient. Transmission occurs through inhalation of bacilli present in upper airway secretion. The nasal mucosa is the main / /entry or exit route of M. Leprae, the sequencing of its genome, along with the advances in understanding the mechanisms of host immune response against the bacilli, dependent on genetic susceptibility, have contributed to the understanding of the pathogenesis, vbariations in the clinical characteristics, and progression of the disease. This article aims to update dermatologist on epidemiological, clinical, and etipathogenic leprosy aspects.

INTRODUCTION:

Leprosy, also known as Hansen's disease, Leprosy remains an important health problem worldwide. The disease is caused by a chronic granulomatous infection of the skin and peripheral nerves with Mycobacterium leprae. The clinical range from tuberculoid to lepromatous leprosy is a result of variation in the cellular immune response to the mycobacterium. The resulting impairment of nerve function n causes the disabilities associated with leprosy. This review summarises recent advances in understanding associated with leprosy. This review summarises recent advances in understanding of the biology of leprosy, clinical features of the disease, the current diagnostic criteria, and the new approaches to treatment of the infection and the immune mediated complication. Supervised multi-drug therapy (MDT) for fixed durations is highly effective for all forms of the disease. The widespread implementation of MDT has been associated with a fall in the prevalence of the leprosy but as yet no reduction in the case-detection rate globally. Thus, leprosy control activities must be maintained for decades to interrup0t transmission of infection.

Leprosy is spread between people, although extensive contact is necessary spread is though to occur through a cough or contact with fluid from the nose of a person infected by leprosy. Leprosy is not spread during pregnancy to the unborn children or through sexual contact. Leprosy occurs more commonly among people living in poverty Genetic factors may also play a role in susceptibility. The two main types of disease paucibacillary and multibacillary- differ in the number of bacteria present. A person with paucibacillary disease has five or fewer poorly pigmented numb skin patches while a person with mutibacillary disease has more than five. The diagnosis is confirmed by finding acid-fast bacilli in a biopsy of the skin or by detecting the bacteria's DNA using polymerase chain reaction.

Leprosy is the one of the oldest disease recorded history. The first known written reference to leprosy is form around 600B.C.

Myobacterium leapre:-

This illustration depicts a photomicrographics view of myocardium leaprae backteria taken from a lepromatous skin lesion,1979.M.leapre is the cause of leprosy, or hansen's disease.A slow-multiplying backterium, it mainly affects the skin, nerves. and mucosa membranes.

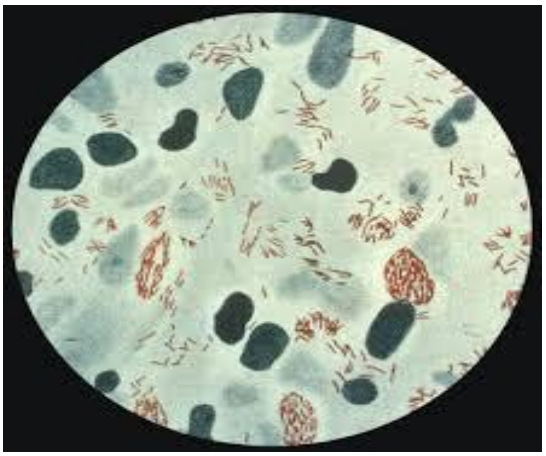

Fig. 1: Myocardium Leapre

Epidemiology:-

Leprosy is epidemic in tropical countries especially in underdeveloped or developing countries.its prevelance has decresed markedly since the introduction of MDT in the beginning of the 1980s Howevers ,105endemic countries,specially located in southest asia, in the Americas, Africa ,estern pacific and western Mediterranean,still concentrate a large number of cases in 2011,210,075 new cases were detected in the world. In the first quarter of 2012,181,941 new cases were recorded and there was a prevalence of 0.34 cases per 10,000 inhabitants.

Epidemiology data from some countries, including india, should be interpreted with caution, because the goals of disease elimination were achieved based on some criteria, such as:changes in the definition of case,exclusion of recurrent cases of treatment dropout from active record, single dose treatment of paucabicillary [PB]patients, shorter duration of treatment,etc.

The strategy used for disease contril by the coordination for leprosy and disease under Elimination of the health surveillance secretariat of the ministry of health inistry of healthconsists in early detection and prompt treatment of case to eliminate the sources of infection and prevent sequeale.

Mechanism of leprosy transmission:-

It is believed that leprosy transmission occurs by close and prolonged contact between a susceptible individual and a bacillusinfected patient through inhalation of the bacilli contained in nasal secretion or fligge droplets. The main route of transmission can occur by skin erosions. Other transmission route, such as blood vertical transmission, breast milk,and insect bites, are also possible.

It is assumed that infected individual, even those why did not developed the disese, may have a transitional period of nasal release of bacilli. The presence of specific DNA sequence M.leapre in swabs or nasal biopsies and sertopositivity for specific bacillus antigen in healthy individual living in endemic areas suggest to carrier plays a role in the transmission of leprosy.

Classification of clinical forms :-

Several classification have been proposed for leprosy over the years as new knowledge about the disease was gained. The Madrid classification, establishment in the international leprosy congress, help in Madrid in1953, follows the polar system defined in 1936 by rabello this system is based on clinical charactertics and the result of skin smear, dividing leprosy into two immunologically unstable groups (indeterminate and borderline) and two stable polar types (tuberculoids and lepromatous).

The classification system of ridley and jopling (1962,1966) used the concept of spectral leprosy based on clinical, immunological, and histopathological criteria.

In1 1982, WHO with operational and therapeutic purpose, established a simplified classification based on the bacterial index(BI). Accoroding to this classification, leprosy was divided into paucibacillary(PB) and multibacillary (MB), and PB patient are those who have a BI lower than 2+ and patients are those showing a BI higher than or equal to2+.

CLINICAL MANIFESTATION:

Charactertic of clinical form:

Clinical manifestation depend more on the celluler immune response of the host to m.leprae than on the bacillary penetration and multiplication ability.

The intermidate group is charactertized by a small number of hypochromic spots with slight decrese in sensitivity without increased nerve thickness.

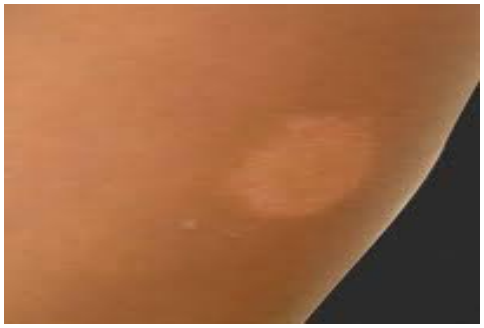

Fig. 2: Indeterminate Leprosy

Hypo chromic spots with identified borders on the space.

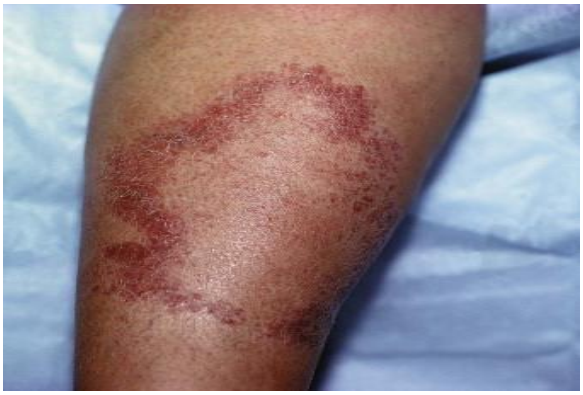

Fig. 3: Tuberculoid leprosy

Well defined annulererythematous plaque on the dorsum of the hand in the LL form, M.leapre multiplies and spreads Through the blood because of the celluler immune response to the bacillus.

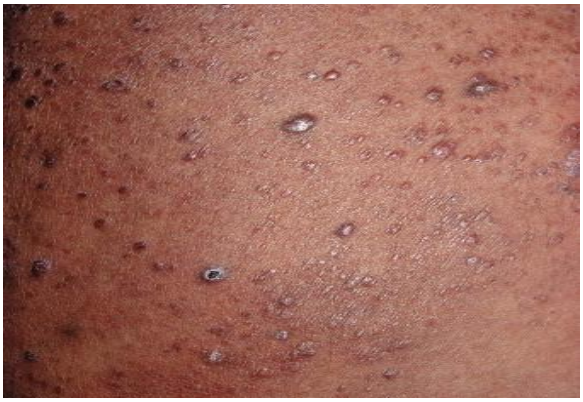

Fig.4: Lepromatous Leprosy

Ichthyosiform appearance of the skin of the legs and leproms. Hypochromic,erythematous

Or bright brownish spots with idefinate borders. These spots may not have loss of sensation. sometime, the only noticeable sigh of dry skin.

Signs and symptoms:-

1. Leprosy primarily affected the skin and the nerves outside the brain and spinal cord, called the peripheral nerves. It may also strike the eyes and the thin tissue lining the inside of the nose.
2. The mainly symptoms of leprosy is disfiguring skin sores, lumps or bumps that do not go away after several weeks or months. The skin sores are pale-colored.
3. Loss of feeling in the arms and legs.

4. Muscle weakness.
5. Discoloured patches of skin, usally flat, that may be numb and look faded (lighter than the skin around).
6. Thicks, stiff or dry skin.
7. Painless ulcers on the soles of feet.
8. Loss of eywbrows or eyelashes.
9. Enlarged nerves, especially in the elbows of kness.
10. Eye problem.
11. Struffy nose and nosebleeds.
12. Ulcers on the soles of the feet.
13. Curling of the fingures and thumbs, caused by paralysis of small muscle in the hand.

Diagnosis:-

1) Diagnosis of leprosy is most commonly based on the clinical sighns and symptoms. These are easy observe and elicit by any health worker after a short period of training. In practice, most often person with such complaints report on their own to the health centre.
2) Positive skin smear.
3) Hansen's disease can be recognized by appearance of patches of skin that may look lighter or dark than the normal skin. Sometimes the affected skin areas that may be raddish. Loss of feeling in this skin patches is common you may not feel a light touch or a prick with a needle.
4) 'To confirm the diagnosis, your doctor will take a sample of skin or nerves to look the backteria under the microscope and may also do tests to tule out other skin disease.

CONCLUSION:

Leprosy is caused by Mycobacterium lepers and has been recognized since biblical era. It is still widespread in many regions of the earth and a public health problem in Brazil. The mechanism of communication of leprosy consists of prolonged close get in touch with between disposed and genetically predisposed individuals and untreated multibacillary patient. Transmission occurs through inhalation of bacilli present in upper airway secretion

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