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Leprosy: A glossary

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Abstract Leprosy continues to afflict residents from a number of countries in Africa, South America, and southeast Asia, despite the marked reduction in the number of cases of leprosy worldwide, after the introduction of the multidrug regimens as recommended by the World Health Organization (WHO-MDT). With the increasing immigration of individuals from risk areas to Europe and the United States, knowledge of the basic concepts of leprosy would be helpful to clinicians caring for immigrants in nonendemic areas. We present a comprehensive, updated, and critical glossary of the most relevant terms related to leprosy.

Introduction

The earliest written records of the disease come from India and date back to 600 BCE,[1] although recent archeological findings in India reveal a skeleton dating back to 2000 BCE with clear signs of leprosy.[2] There is little doubt that leprosy is an ancient disease. When the advances in medical sciences are considered, it is perplexing that in the 21st century this disease continues to affect large proportions of the world population. Epidemiologic data demonstrate that, despite important advances in the political, social, and economic status of developing countries, leprosy is still a disease of concern in many countries of Africa, southeast Asia, and the Americas. According to official reports from 105 countries and territories during 2012, the global registered prevalence of leprosy at the beginning of 2012 stood at 181,941 cases and the number of new cases detected during 2011 was 219,075 (excluding the small number of cases in Europe).[3]

The disease is caused by a slow-growing—probably the slowest-growing—mycobacteria that has a predilection to affect skin and peripheral nerves. *Mycobacterium leprae* is an intracellular parasite, and the cytoplasm of a Schwann cell is its preferred target. Host immune response is responsible for the clinical features of the disease. These can vary from mild signs and symptoms to severe type 1 T helper cell (T_H1) or type 2 T helper cell (T_H2) profile immunologic reactions. In the 1940s, sulfone-derivative drug treatment was introduced, and in the 1980s an effective multidrug regimen with three drugs was implemented worldwide, producing a marked modification in the epidemiologic features of the disease.

Although rare in Europe and North America, leprosy is still a disease of concern among immigrants coming from risk areas. Knowledge of basic concepts of the disease would be helpful to clinicians caring for immigrants in these regions[4]; moreover, uniform definitions of commonly used terms would simplify discussions about the disease and its consequences.

This glossary of leprosy-related terms was compiled to define words and explore concepts that are commonly used to describe leprosy, its pathogenesis, its epidemiology, the treatments, *M leprae*, public health, and the social aspects of

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this disease. The glossary contains many up-to-date terms associated with this disease. Not every technical term has been included because of the enormity of such an undertaking. It is hoped that this glossary will help readers define the most common technical terms associated with leprosy.

Anhidrosis

Decreased secretion or even absence of sweat. Skin lesions in leprosy show marked reduction of sweating as evidenced by a simple test using 1% ninhydrin paper stamps.[5]

Amyloidosis

Formation of amyloid substance in body tissues. Secondary amyloidosis is a complication of several chronic diseases. Secondary amyloid change is a common finding in long-standing multibacillary cases.

Armadillo

Dasypus novemcinctus (the nine-banded armadillo) and other armadillos can be experimentally infected with *M leprae* and develop a disease similar to leprosy. Armadillos are the only animal model known for leprosy.

Bacteriologic index (BI)

A logarithmic scale, from 0 to 6+ based on the average number of bacilli per microscopic field, using an oil-immersion objective while examining a slide with a skin smear from a given leprosy patient.

Blepharochalasis

Relaxed eyelid skin tissue secondary to elastic atrophy (Figure 1).

Borderline leprosy (BB)

Also known as middle-borderline leprosy, BB leprosy is highly unstable and rare. Characteristic of this type are the "Swiss cheese" skin lesions, characterized by infiltrated plaques with an apparent normal skin in the center and well-defined inner edge and uncertain defined outer edges. Amid the typical lesions, there may be macules, plaques, papules, and nodules, which are usually found in combination with the typical lesions (Figure 2).

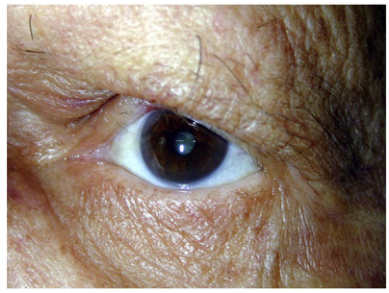

Fig. 1 Blepharochalasis as a common finding in long-standing lepromatous patients.

Borderline lepromatous leprosy (BL)

A leprosy presentation close to the lepromatous pole of the spectrum. Because of reduced immunologic resistance, lesions are disseminated and symmetrically distributed. Macular lesions may increase in size to become erythematous and infiltrated. The edges of the lesions are irregular and invade normal skin. Plaque-like lesions, papules, and nodules may appear, simulating lepromatous leprosy. Reversal reaction and erythema nodosum leprosum (ENL) are common in these cases. Skin smears shows strong positivity.

Borderline tuberculoid leprosy (BT)

Skin lesions similar to those observed in tuberculoid leprosy (TT) but larger and more abundant. Lesions may vary in size, shape, and color, even in the same patient. Small satellite lesions near the larger lesions may be observed, and the color varies from hypochromic to red. Reversal reactions with severe nerve involvement are common in this presentation of leprosy. Skin smears may be negative or positive, and the bacteriologic index usually does not exceed 2+.

Fig. 2 Borderline leprosy with typical "Swiss cheese" lesions in the skin.