



Undetected leprosy in an endemic area: A case report

Shahla Afrasiabian¹, Alireza Gharib², Katayoun Hajibagheri¹

1 Assistant Professor, Department of Infectious Diseases, School of Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran

2, Deputy of Research and Technology, Kurdistan University of Medical Sciences, Sanandaj, Iran

Abstract

Case Report

Leprosy is an infectious disease causing irreversible disability if unnoticed. A 69-year-old man with undetected leprosy from 30 years ago referred to us with claw hand and Madrosis (Milphosis). The patient complained of non-healing and painless ulcers on the extremities as well as numbness in the right leg. He told the medical team that he could not feel his feet in his shoes. The patient had blurred vision and lacrimation two weeks before admission. He had a history of recurrent foot ulcers from 25 years ago although he referred to medical staff about 5 years ago with infected wound on the hands and multiple scars of pervious ulcers. The disabilities were mainly in consequence of late visit to healthcare centers, misdiagnosis, difficult access to medical centers and patient's unawareness. The case showed the significance of medical education and public awareness for signs and symptoms of leprosy to be recognized and treated on time. In conclusion detecting leprosy should not be delayed just because of a decrease in the number of cases especially in an endemic area like Kurdistan, Iran.

KEYWORDS: Leprosy, Chronic Disease, Disability, Mycobacterium Leprae

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Introduction

Leprosy is a chronic infectious disease principally affecting peripheral nerves and skin. This disease can initiate the development of severe disabilities and serious psychosocial impacts.¹ The World Health Organization (WHO) reported leprosy as an important health problem in 23 countries in 1998,¹ later due to duty free medication policy, number of cases with leprosy declined severely.²

Existence of leprosy in Iran is recorded in Avesta, the Zoroastrian religious book. The equivalent Persian word for leprosy is "Khoreh" meaning something which eats or destroys the tissues, indicating the destructive character of

disease. However, in the Islamic era the Arabic word "Jozam" has been gradually substituted and is still in use in Iran.³

The mortality rate of leprosy is low, but development of deformities and disabilities make the disease a real burden.⁴ Urgent diagnosis of the disease is important, otherwise there will be lifelong consequences, like claw hands with paresthesia, yet there are many missed cases that may take years before a diagnosis is made.⁵ Diagnosis of leprosy prior to nerve damage could evade grade II disabilities.⁶

As a differential diagnosis, leprosy should be considered in patients with cutaneous and neurological signs and symptoms.⁷ Since the clinical signs in leprosy are not difficult to diagnose, particularly in endemic areas, health and medical education should revise on its

Corresponding Author:

Alireza Gharib

Email: gharibalireza@yahoo.com

policies to bring the disease into light.⁷ This will lead to the goal of eradication of leprosy and its due disabilities.

This study has two important aspects i.e. first, importance for medical team to see why in an endemic region there are still undetected leprosy cases and second, for the health system to revise in its future strategies because such cases could be an important public health threat.

Case

A 69-year-old man was presented with non-healing and painless ulcers on the extremities which lasted for a period of three months. The patient was residing in a surrounding village of northwestern city of Marivan, Iran.

He was admitted to the infectious disease department of Towhid Hospital in Sanandaj, Iran. Patient history revealed that there has been deformity in the upper and lower limbs, as well as paresthesia over extremities but there was no fever or joint pain. He suffered from numbness in the right leg and could not feel his feet in his shoes. The patient had blurred vision and lacrimation two weeks before the admission. Clinical examination showed seven plaque-like skin lesions in the arms and knee regions as well as Madrosis (Figure 1) which was seen on his eyebrows and eyelashes (in the 1/3 outer layer) without any sign of a thickening earlobe.



Figure 1. Madrosis

The patient had “claw hand” (Figure 2) deformity and stretching of the 3rd, 4th and 5th fingers; however no sign of peripheral nerve hypertrophy was noticed. The case presented here did not show involvement of common cutaneous nerves with thickening and/or tenderness, which is the second clinical sign to diagnose leprosy.



Figure 2. Claw hand

According to the patient, he had a history of recurrent foot ulcers from 25 years ago. Consequently he referred to medical staff about 5 years ago with infected wound on the hands and multiple scars of pervious ulcer. Consultations with ophthalmologist and neurologist resulted in the diagnosis of uveitis and mononeuritis multiplex, respectively. Laboratory results showed acid-fast positive bacilli (3 plus positive) after nasal smears were prepared and stained by Ziehl-Neelsen staining method. Our diagnosis (based on clinical suspicion) was confirmed through bacteriological and microbiological analysis. Other preclinical examinations included normal chest X-ray which excluded sarcoidosis and routine laboratory workup which revealed the following results: FBS = 93 mg/dl, BUN = 101 mg/dl, Cr = 17 mg/dl.

Other laboratory findings showed no signs of hemolytic anemia [normal glucose-6-phosphate dehydrogenase (G6PD) and complete blood cell (CBC)] although white blood cell count (WBC) and erythrocyte sedimentation rate (ESR)

(= 58 mm/h) were elevated. Therefore the patient started clofazimine, rifampicin, and dapsone treatments which resulted in the management of the infection. Later follow ups showed that the patient was symptom-free and the disease was well controlled. Other close contacts of the patient has been checked and found to be symptom-free.

Discussion

This case report indicated the importance of paying attention to leprosy in daily clinical encounters especially in endemic areas, bearing in mind that our case has not been detected for almost 25 years which could be due to the following reasons: 1. Living in a remote village with arduous access to medical facility; 2. Long incubation period and numbness made it difficult for the patient to notice the disease process, leading to failure in referring to medical centers; and 3. Absence of nerve hypertrophy as a distinctive criterion in diagnosing the disease leading to misdiagnosis.

The question is why typical signs of a case of leprosy, are often missed by medical physicians and other medical team working in an endemic area.

Prevalence of disability varies in different parts of the world which may be due to improper technique of physical examination. Delay in referral to health centers is more common in old age and male gender which makes the disabilities exacerbated. In another study done by Rad et al. most of the clients were residing in rural areas in which factors like low social level, cultural lag, and inaccessibility to health care centers were reasons behind increased rate of leprosy in those regions.¹ The disease should still be considered in the differential diagnosis of dermatological cases with neuropathy even in non-endemic regions.⁸ Hansen's disease can mimic tinea corporis by presenting as one or more annular, sometimes scaly, plaques.⁹

In a study which is in accordance with our case report, a long history of repeated rash and

leg numbness was revealed in a patient who had primarily been diagnosed as systemic lupus, later diagnosed as lepromatous leprosy.¹⁰ In another study, epidermolysis bullosa dystrophica, granuloma multiforme, and mycosis fungoides were considered as leprosy first;¹¹ however, later skin biopsy revealed that the diagnosis was sarcoidosis.¹² Multibacillary (MB) leprosy which is close to lepromatous end of the spectrum may mimic other diseases, and the patient cannot be diagnosed without a biopsy or a slit skin smear examination, which indicates the importance of microbiological findings in reaching a clear diagnosis of the disease. Clinical diagnosis is an important tool for decision making about such cases as well.¹³

The above studies underline the fact that training in the diagnosis of leprosy and its management to young physicians, nurses and rural social workers, will prevent an increase in cases of leprosy with severe deformities. This rather enables earlier intervention, improved patient outcomes and prevention of further transmission. It is essential to check all contacts of any diagnosed leprosy patient, principally in highly endemic areas, to facilitate an early diagnosis.

Conclusion

We all know that in today's global village chronic infectious cases like leprosy could relocate easily. In other words, germs do not respect borders and we must keep it on our radar screens. Encouraging leprotic patients share their experiences will decrease the stigma which is a leading cause of delay in detection. In the final analysis, a paradigm shift in leprosy care services and control program is required to detect leprosy and its complications as a major challenge. Consequently leprosy should not be lost just because of a decrease in the number of cases especially in an endemic area.

Conflict of Interests

Authors have no conflict of interests.

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