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Bullous lepromatous leprosy mimicking bullous pemphigoid

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ABSTRACT

A granulomatous, chronic infectious disease which is called leprosy is caused by intracellular bacilli *Mycobacterium leprae*. Which attacks Schwann cells and macrophages Leprosy, commonly known as Hansen's disease, is an infection brought on by the slow-growing bacterium *Mycobacterium leprae*. It may have an impact on the nose, skin, eyes and distal nerves. The condition can be cured with early detection and urgent treatment. Hansen's disease patients are still able to work and maintain an active lifestyle both during and after therapy finally, if the nerve damage is not treated, it can lead to blindness, numbness and the paralysis of the hands and feet.

1. INTRODUCTION

The bacterium *Mycobacterium leprae* is the origin of the chronic granulomatous disease known as leprosy, often referred to as Hansen's disease. Peripheral nerves and the skin are the main areas affected. The World Health Organization (WHO) states that leprosy is present when a person exhibits one of the following three symptoms: I definite loss of sensation in a pale (hypo pigmented) or reddish skin patch; (ii) thickened or increased in size peripheral nerve with numbness or tingling; or (iii) an acid-fast bacilli finding in a slit-skin smear. More than 3000 suspected cases of leprosy have been reported since the disease was declared eradicated in 2010, thus we still need to treat it as a differential diagnosis 4 (Lastória and Abreu, 2014). The illness can occasionally present in an odd way, come with debilitating repercussions and even spread to others. Leprosy is a chronic infection that affects acral area. A persistent granulomatous infection, Hansen's disease, is a chronic granulomatous infection due to *Mycobacterium leprae*. The uncommon arises when the disease present unusual clinically. This case was difficult to diagnose because it presents with multiple bullae and ulceration that mimic bullous pemphigoid (Agarwal et al., 2013).

2. CASE PRESENTATION

A 72-year-old male, from Tehama of south region, presented to the medical out-patient department (OPD) of King Fahad Hospital, on 12 March 2016 with complaints of on and off fever, malaise and arthralgia for the past 2 weeks.

The fever was associated with chills but no rigor, the maximum temperature was 39 C multiple blisters skin lesion on his feet was seen long time back with suspect of bullous pemphigoid. His past medical history was uneventful. He did not give any significant family history. There was no history of loss of appetite or weight loss; he was on topical betamethasone valerate.

On examination, he was febrile with a temperature of 38.6 °C. A general physical examination was normal. Other systemic examination was unremarkable. Multiple bullae were visible at the time of examination. Routine investigations, which included complete blood count (CBC) liver function test, Renal function test and antinuclear antibody (ANA) tests, were performed. He had leukocytosis (18,300/mm3) with neutrophilia (15,200/mm3). Alanine aminotransferase (ALT) was elevated at 122 (normal, 12–78 IU/L) and Aspartate transaminase (AST) was elevated at 198 (normal, 46–116 IU/L). Both direct and indirect bilirubin was with in normal limits. Renal function test was normal. C-reactive protein was positive, in contrast to negative results from tests for the Rheumatoid factor and the ANA. Urinalysis tests were performed as further tests. To rule out tuberculosis, a serum ADA testing was done and the results were within normal ranges. His chest and abdomen were imaged using computed tomography and the results were normal. He received an injection of paracetamol to treat his fever during the first week of his hospital stay. Given that the fever persisted and the results of the above tests failed to provide a conclusive diagnosis.

He continued to get bullae on the extensor surface of his foot throughout his hospital stay. The skin was excised by punch biopsy 4 mm and sent to histopathology for examination. Histopathology revealed epidermal atrophy, Grenz zone and foamy histiocytes. Suspected bullous leprosy was obtained. Fite stain showed multiple bacilli and globi inside macrophages.

Since all three of the WHO diagnostic criteria's cardinal symptoms were present, the patient was given the leprosy diagnosis. It was possible to diagnose lepromatous leprosy based on the wide spread distribution of plaques on the face, trunk and eyebrows and histopathological and stain appearance. He received oral Dapsone 100 mg daily as well as 600 mg of rifampicin every month and clofazimine 300 mg daily for one year therapy. The patient's skin lesions had improved and the numbness had lessened during the one-year checkup.

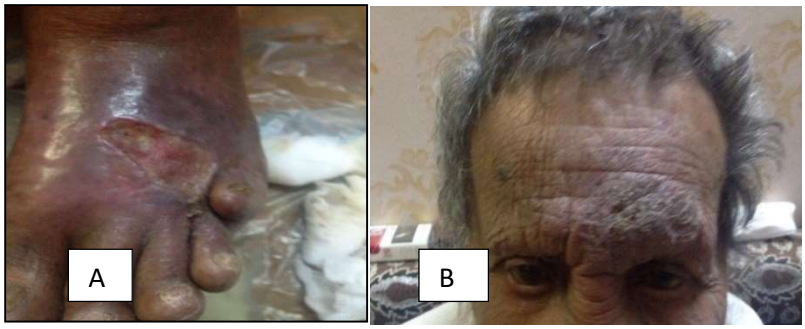

Figure 1 Ulcer and bullae in dorsum of left foot with loss nail (anonychia) (A) and large scaly infiltrated plaque in forhead with madarosis (B**)**

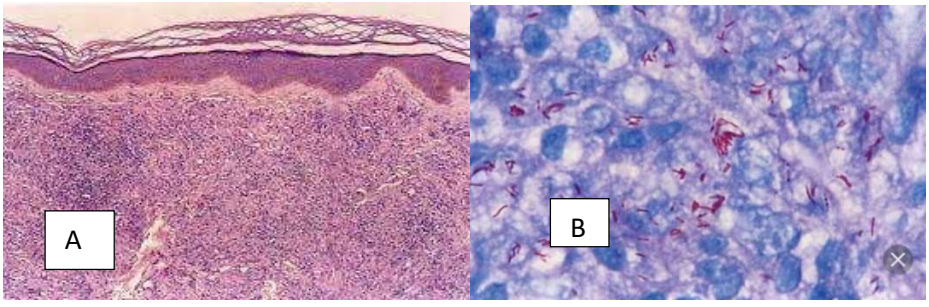

Figure 2 AH & E stain showed epidermal atrophy with Grenz zone and diffuse lymphocytic infiltrate in all dermis (A) and Fite stain showed multiple bacilli and globi inside macrophages (B)

3. DISCUSSION

Many developing nations still suffer with leprosy, especially in tropical areas years would pass while a person has subclinical leprosy. Due of the slow-growing nature of the causing Mycobacterium spp. Leprosy may spread from endemic areas to uncommon areas due to global migration and the importation of employees from one nation to another. It is challenging to determine the true frequency and eradication of this disease due to its lengthy incubation period. Leprosy can be considered

eradicated as a public health issue in areas where the prevalence rate has dropped to under one affected per ten thousand people, according to the WHO (Miyashiro et al., 2019).

Leprosy is spread by droplets from untreated cases, with considerable long-term and regular contact. 1 The patient in this report, however, lives alone in a rural area in Tehama region where leprosy prevalence is extremely low and there are no known cases at the moment. He was a taxi driver and this is the most logical basis for her diagnosis (Chen et al., 2022). Skin biopsies and stain tests to confirm the *M. leprae* species available in the community hospital environment. This patient's clinical presentation and microscopic inspection satisfied the WHO's diagnostic standards and the patient's symptoms subsided following MDT therapy (Lastória and Abreu, 2014).

4. CONCLUSION

A rare case of lepromatous leprosy with an unusually with multiples bullae and ulcers can mimic blistering dermatosis clinically and should be considered on mind especially in endemic area. This informs physicians that leprosy is not an infection of the past despite its rare incidence.

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Author Contributions

Saeed: Created the study design, wrote the introduction and case report manuscript and gave final approval of the manuscript; Rayan: Interpretation and writing of results and conclusion. Ahmed: Shared in abstract and discussion; Mohammed: Data collection and entry of patient; Basil N: Shared in writing the discussion and references; Bandar; Collect histopathological slides and photos and shared in abstract. Basil S; Shared in case presentation and references. Aziz: Edited the manuscript and gave final approval of the manuscript.

Informed consent: Written & Oral informed consent was obtained from this participant included in this study. Additional informed consent was obtained from this participant for whom identifying information is included in this manuscript.

Ethical approval: The study was approved by the Medical Ethics Committee of medical college, Al-Baha University, Code number: REC/MED/BU-FM/2022/60.

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Conflict of interest

The authors declare that there is no conflict of interests.

Data and materials availability

All data sets collected during this study are available upon reasonable request from the corresponding author.

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