ACTA SCIENTIFIC MEDICAL SCIENCES

Volume 3 Issue 3 March 2019

Case Report

Facial Lesions of Hansen - A Diagnostic Dilemma

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Received: January 23, 2019; **Published:** February 15, 2019

Abstract

Leprosy is a great masquerader and may mimic a wide variety of diseases. Lesions of borderline Hansen over the face show a spectrum of variations ranging from macular patch, papulo-nodular, annular, punched out, bizarre and infiltrated plaque. A case of borderline tuberculoid leprosy presenting with a single erythematous infiltrating plaque over the face along with differential diagnosis (clinically and histopathologically) are being discussed.

Keywords: Borderline Tuberculoid Leprosy; Facial Lesions

Introduction

Leprosy is a chronic granulomatous infection of the skin and peripheral nerves caused by an acid-fast bacillus, *Mycobacterium leprae* [1]. Despite concerted efforts to eradicate leprosy it continues to be a public health problem. On one hand, certain cardinal features of leprosy have been widely advertised so as to make the identification and diagnosis of cases possible even by the primary health care workers but on the other hand, it is a great masquerader and may mimic a wide variety of diseases. The protean manifestations of leprosy are due to the fact that the clinical presentation depends on the immunological status of the patient and mycobacterial load making it difficult to recognise cases with reactions and relapses adding to the confusion. Such cases are often misdiagnosed and are wrongly treated [2,3].

A case of Borderline tuberculoid leprosy with type one reaction presenting as a single plaque over the face, previously misdiagnosed and treated as lupus vulgaris is being discussed.

Case Report

A 40-year-old female resident of Uttarakhand, India presented in the dermatology out patient department with a reddish lesion over the right side of face that appeared 9 months prior to her visit. It started as a small papular lesion just above the right side of upper lip and progressed to involve the surrounding area. It was associated with mild and intermittent pain in the lesion. No systemic complaints were reported. Patient gave no history of preceding trauma or insect bite. She was previously diagnosed as lupus vulgaris from outside and took 2 months of anti-tubercular treatment with initial relief followed by exacerbation of the lesion

Family history revealed that her daughter was a treated case of hansens 10 years back and took complete treatment for 12 months.

On examination there was a single well defined raised and oedematous erythematous infiltrating plaque of size 5 x 6 cm involving

right side of upper lip obliterating the nasolabial fold and vertically obscuring the vermilion border of lip and extending to nasal area with overlying thick, adherent and yellowish-white crusting (Figure 1). On palpation the lesion was non-tender, firm and indurated with no local rise in temperature. There were no other skin lesions. Superficial sensations to touch and pain were intact with loss of temperature sensations (cold and hot). Examination of peripheral nerves revealed symmetrical mild to moderate thickening of both ulnar nerves and infraorbital nerves. The nerves were non-tender.

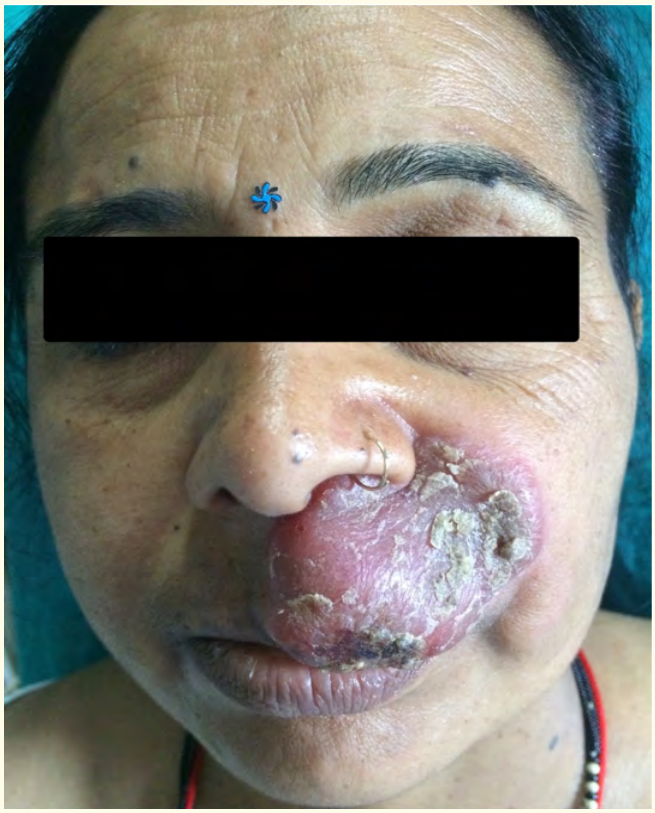

Figure 1: Erythematous raised plaque with overlying crusting.

Skin biopsy was sent for histopathological examination with a differential diagnosis of lupus vulgaris, leishmaniasis, borderline tuberculoid leprosy with type 1 reaction, sarcoidosis and lymphoma cutis. Mantoux test was 9 x 9 mm. Slit skin smear was negative.

Histopathology showed epidermis with focal thinning, hyperkeratosis and follicular plugging. Numerous epithelioid cell granulomas and Langerhans and foreign body giant cells were present in the dermis with moderate to dense lymphomononuclear inflammatory cell infiltrate. Stain for acid fast bacilli showed no lepra bacilli (Figure 2).

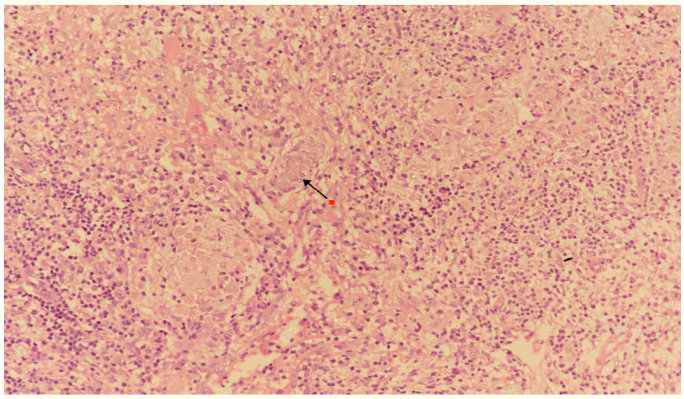

Figure 2: Photomicrograph: (H&E stain 40x magnification) showing few epithelioid cell granulomas along with occasional Langhans giant cells (black arrow) in the dermis.

A diagnosis of borderline tuberculoid leprosy with type 1 reaction was made and patient was started on multibacillary multidrug treatment and systemic steroids. Patient showed complete resolution within 12 months and the lesion healed with scaring (Figure 3).

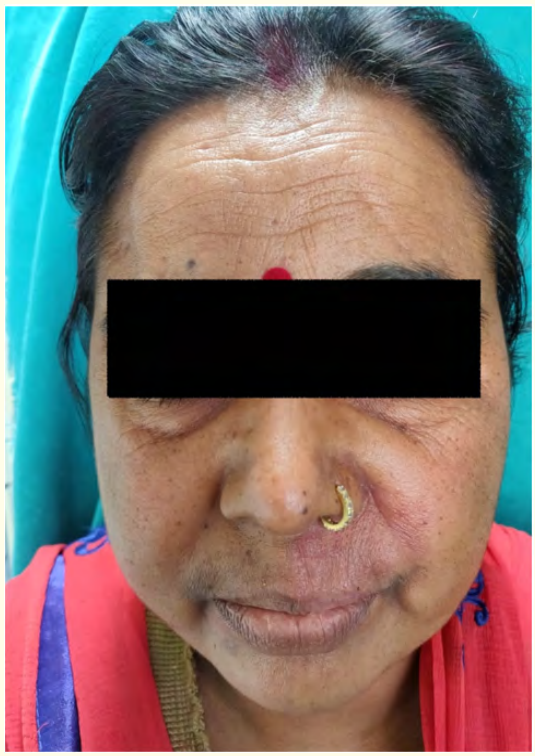

Figure 3: Lesion healed with scaring (post treatment).

Discussion

Diagnosis of leprosy is made based on its cardinal signs which are (a) hypopigmented or reddish skin lesion(s) with definite loss of sensation, (b) thickened peripheral nerve(s) with impairment of sensation in the area supplied, (c) AFB in the slit skin smear [4]. Borderline leprosy can mimic several skin, neurological and other diseases. The differential diagnosis is so wide that wide variety of dermatological diseases has to be excluded before stamping it to be leprosy as stigma is still associated with it. Lesions of borderline Hansen over face show a spectrum of variations ranging from macular patch, papulo-nodular, annular, punched out, bizarre and infiltrated plaque. The reversal reaction (type 1 reaction) adds to the clinical exacerbation of the preexisting lesions in the form of erythema, swelling and pain. Severe form can also present with ulceration, fever, arthralgia, paresthesia, increasing loss of nerve function and edema of hands and feet [5,6].

The manifestations of facial lesions are different than the usual presentation as the sensory loss is difficult to demonstrate due to abundant overlapping nerve supply. The lesions are more erythematous due to increased blood supply making it difficult to recognize a hypopigmented lesion. Differential diagnosis of a single infiltrated plaque over the face includes lupus vulgaris, leishmaniasis, borderline tuberculoid leprosy with type 1 reaction, lymphoma cutis, lupus erythematosus, granuloma annulare, sarcoidosis, sporotrichosis, granuloma faciale and granuloma multiforme. The diagnosis is confirmed with histopathology and demonstration of acid fast bacilli in the lesion. Most of the above diagnosis can be excluded on histopathology [7].

Lupus vulgaris is a close histopathological differential diagnosis. Lupus vulgaris is a chronic progressive paucibacillary form of cutaneous tuberculosis occurring in patients with moderate to high degree of immunity and is known to originate from an underlying tuberculosis focus or through exogenous inoculation [8].

Both borderline tuberculoid leprosy and lupus vulgaris are paucibacillary forms of their disease forms so, AFB is difficult to demonstrate on tissue smears, cultures and sometimes also on Polymerase chain reaction which makes them difficult to diagnose and differentiate from each other. The above patient was also diagnosed as lupus vulgaris from outside. Also the treatment for lupus vulgaris consist of drugs like rifampicin having antileprotic action which can explain the initial improvement in the lesion after antitubercular treatment but only to worsen the disease after few months when patient developed type 1 reaction [9].

Conclusion

Leprosy mimics many dermatological and neurological disorders. Single facial plaque of Hansen may be difficult to diagnose and poses a diagnostic dilemma. A high index of suspicion from complete history, thorough clinical examination, corroborating with the findings of histopathology and slit skin smear is required to make the correct diagnosis and proper classification of leprosy in order to provide appropriate treatment.

Conflict of Interest

None.

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Volume 3 Issue 3 March 2019

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