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Case Report

Lupus vulgaris on face: a case report

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ABSTRACT

Lupus vulgaris is the most common form of cutaneous tuberculosis in adults. Starts either by re-infection or by lymphatic or hematogenous spread or by direct spread in individuals with moderate immunity and high degree of tuberculin sensitivity. Females affected 2-3 times more, constitute 1-2% of all extra-pulmonary TB. Common sites involved are face and neck. We reported a case lupus vulgaris in a 52 year old female patient.

Keywords: Lupus vulgaris, Face, Tuberculin test, Granuloma

INTRODUCTION

Cutaneous involvement occurs in 1-2% of tuberculosis cases, with lupus vulgaris (LV) being one of the most common forms, occurring in patients previously sensitized to *Mycobacterium tuberculosis*. It occurs predominantly in young adults affecting primarily the head and neck region, particularly around the nose.[1,2] LV is characterized by plaque with apple jelly nodule that extends irregularly with scar formation and tissue destruction.[3]

CASE REPORT

A 52-year-old female, weaver by occupation, presented with one-year history of a raised lesion on left cheek which started with papules which coalesced into present size. Examination revealed a single, well defined, non-tender skin colored to brownish indurated plaque with central atrophy and raised periphery with irregular margin of size 4×5 cm with minimal scales over left side of cheek (Figure 1). No follicular plugging, scarring, adherent scales, telengectasia or loss of sensation were noted. No regional lymphadenopathy was present. Diascopy revealed apple jelly color at the periphery. Systemic examination was uneventful. Routine haematological and biochemical investigations revealed no abnormalities. Tuberculin skin test was strongly positive with 20 mm diameter after 48 hours and chest X-ray showed right hilar opacity. Histopathology of lesion showed orthokeratotic epidermis and dermis with well formed epitheloid granuloma with Langhan's giant cell and stroma showing lymphoplasmacytic cell infiltrates (Figure 2). These features were suggestive of a chronic granulomatous inflammatory reaction. No typical tuberculous follicles or acid-fast bacilli could be identified. Culture was negative for fungi, bacteria and acid-fast bacilli. The clinical and microscopic features were consistent with diagnosis of LV. The screening for an extracutaneous focus of TB was negative. Patient was treated with a 2-month course of isoniazide 5 mg/kg/d, rifampicin 10 mg/kg/d, pyrazinamide 35 mg/kg/d, and ethambutol 20 mg/d followed by rifampicin and isoniazid for a further 4 months. Complete resolution of the plaque with minimal residual scarring was observed in follow-up examination at the end of the treatment (Figure 3).

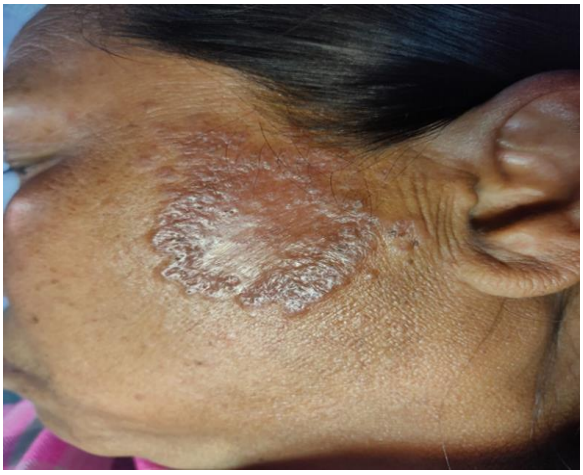

Figure 1: Single erythematous brown colored plaque with atrophy in centre and irregular peripheral margin on cheek.

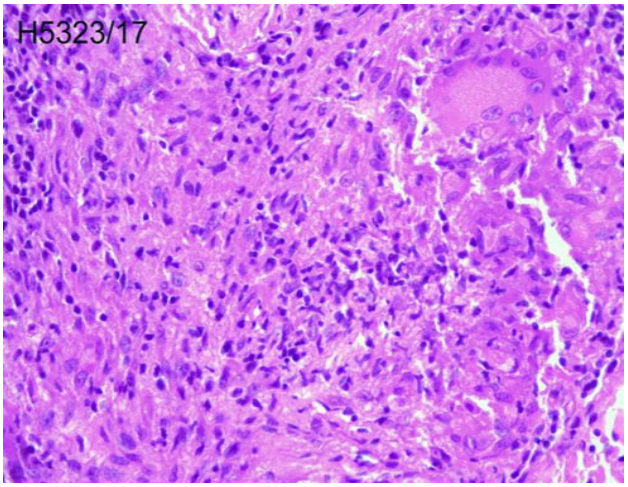

Figure 2: Histopathological picture showing orthokeratotic epidermis and dermis with well formed epitheloid granuloma with Langhan's giant cell and stroma showing lymphoplasmacytic cell infiltrates.

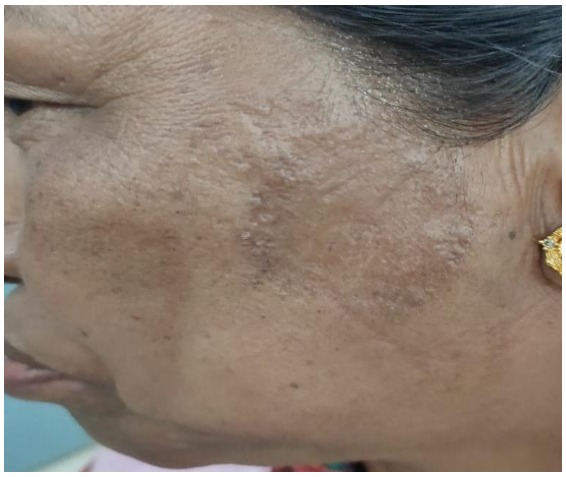

Figure 3: Post treatment picture after 6 months of ATT showing residual scarring.

DISCUSSION

LV is a rare, chronic, progressive form of tuberculosis caused by continuous spread from an underlying focus of infection or by hematogenous or lymphatic spread.[4,5] Rarely it can occur at site of primary inoculation or at site of BCG vaccination.[6]

LV typically is characterized by red-brown papules, which coalesce to form a well-demarcated scaly, asymptomatic plaque. The plaque gradually expands centrifugally with new papules at the periphery. When blanched by diascopic pressure, the lesions reveal a pale brownish-yellow or "apple jelly" color.[7-9]

Morphological patterns observed are plaque type, ulcerative type, vegetative type, papular-nodular type and tumor-like. Higher tendency for scarring and deep tissue involvement is seen in ulcerative and mutilating forms of LV.[3] Commonly involve face, ear and neck. Facial involvement can affect the nose resulting in destruction of nasal and septal cartilage.

The differential diagnosis for early plaque type should include lupus erythematosus, lymphocytoma, Spitz naevus, syphilis, psoriasis and Bowen's disease and for multinodular or vegetative type include leishmaniasis, leprosy, sarcoidosis, acne rosacea and Wegener's granulomatosus.[3,10] Diagnosis of cutaneous tuberculosis is difficult as the clinical presentation may not be typical in most cases. A positive culture for bacilli and may fail to demonstrate acid-fast bacilli in patients with chronic and long standing lesion as they possess higher degree of immunity against the infection.[11-14] In the present case also culture was negative and could not demonstrate acid fast bacilli in the biopsy specimen.

Tuberculosis being a granulomatous inflammatory reaction, histologically classic tubercles are the hall mark of LV. Caseation within the tubercles is seen in about half the cases and is rarely marked.[15] The Mantoux test is positive in most cases of LV as in our case.[11,14,16] The diagnostic value of a positive tuberculin test is not conclusive if the subject has a history of BCG vaccination in early life or previous mycobacterial infection. A therapeutic trial of anti tubercular (ATT) drugs can be done if strong suspicion of LV, which cannot be proved with biopsy or tuberculin test. The response of the lesion to ATT drugs will confirm the diagnosis.[17]

The absolute criteria for diagnosis of cutaneous tuberculosis are a positive culture of mycobacterium from the lesion or successful guinea-pig inoculation, or DNA identification by polymerase chain reaction (PCR). In PCR, specific fragments of mycobacterial DNA is amplified and so even if little amount is present it can be detected. It has sensitivity that is equal to or higher than culture, and a high specificity.[3,14]

CONCLUSION

LV should be considered as differentials in various diseases presenting with chronic non-healing plaque. Confirmation of diagnosis poses an enormous challenges due to its variable clinical presentation and pauci-bacillary nature, which can result in under-recognition of the condition leading to delayed treatment. Notwithstanding difficulty in diagnosis, a correct and adequate treatment is crucial because if left untreated, it carries high risk of local destruction or development of malignant skin tumors.

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REFERENCES

1. Theodosiou G, Papageorgiou M, Mandekou-Lefaki I. An unusual presentation of lupus vulgaris and the practical usefulness of dermatoscopy. Case Rep Dermatol Med. 2018;2018:1036162.
2. El-Gatit AL, Deriny EL, Mahmoud AA, Ashi AS. Presumed periorbital lupus vulgaris with ocular extension. Ophthalmology. 1999;106(10):1990-3.
3. Gawkrodger DJ. Mycobacterial infections. In: Rook A, Wilkinson DS, Ebling FJG, eds. Textbook of Dermatology. 6th ed. Oxford; Boston: Blackwell Scientific; 1998: 1194.
4. James W, Berger T, Elston D. Mycobacterial Diseases from Andrew's diseases of the skin. 11th ed. Elsevier; 2011.
5. Tappeiner G. Tuberculosis, from Dermatology in General Medicine. 7th ed. McGraw-Hill; 2008.
6. Sehgal VN, Jain MK, Srivastava G. Changing pattern of cutaneous tuberculosis-a prospective study. Int J Dermatol. 1989;28(4):231-6.
7. Degitz K. Mycobacterial infections. Braun-Falco's Dermatology. 3rd ed. Springer; 2009.
8. Ramesh V, Makkar R, Sood N, Batra R. Lupus vulgaris postexanthematicus- a rare variant of lupus vulgaris with sarcoid-like histopathology. Clin Experiment Dermatol. 2005;30(2):189-90.
9. Khandur S, Reddy BSN. Lupus Vulgaris: unusual presentation over the face. J Euro Acad Dermatol Venereol. 2003;17:706.
10. Freitag DS, Chin R. Facial granuloma with nasal destruction. Chest. 1998;92(3):422-3.
11. Marcoval J, Servitje O, Moreno A, Jucglà A, Peyrí J. Lupus vulgaris. Clinical, histopathologic, and bacteriologic study of 10 cases. J Am Acad Dermatol. 1992;26:404-7.
12. Farina MC, Gegundez MI, Pique E, Esteban J, Martín L, Requena L, et al. Cutaneous tuberculosis. Clinical, histopathologic, and bacteriologic study of 10 cases. J Am Acad Dermatol. 1995;33(3):433-40.
13. Serfling U, Penneys NS, Leonardi CL. Identification of Mycobacterium tuberculosis DNA in case of lupus vulgaris. J Am Acad Dermatol. 1993;28:318-22.
14. Sehgal VN, Jain MK Srivastava G. Changing pattern of cutaneous tuberculosis-a prospective study. Int J Dermatol. 1989;28(4):231-6.
15. Patterson J. Lupus Vulgaris from Weedon's Skin Pathology. 4th ed. Churchill-Livingstone: Elsevier; 2014.
16. Kumar B, Rai R, Kaur I, Sahoo B, Muralidhar S, Radotra BD. Childhood cutaneous tuberculosis: a study over 25 years from northern India. Int J Dermatol. 2001;40(1):26-32.
17. Kakakhel K, Fritsch P. Cutaneous tuberculosis. Int J Dermatol. 1989;28(6):355-62.

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