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Case Report

Family history of tuberculosis as a pointer towards diagnosis of ulcerative lupus vulgaris on trunk

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Abstract Lupus vulgaris (LV) is a chronic, progressive and commonest clinical variant of cutaneous tuberculosis. Among the diverse presentations of LV seen in adults, the ulcerative form is rare explaining the delay in diagnosis. A 30 year old male with non-healing ulcer on trunk for three years with multiple treatments in the past was diagnosed as a case of ulcerative lupus vulgaris after the family history of tuberculosis in two close contacts of patient facilitated the diagnosis, which was further validated by mantoux test and histopathology report. The patient showed immediate response to Antitubercular therapy (ATT) and remained in remission on completion of therapy. Our case highlights that one should consider ulcerative lupus vulgaris as a possible differential diagnosis of non-healing ulcer in patients with personal and/or family history of tuberculosis.

Key Message Ulcerative lupus vulgaris should be taken into account while making a diagnosis of non-healing ulcers particularly in patients who have personal and/or family history of tuberculosis.

Key words
Family history; Lupus vulgaris; Ulcerative.

Introduction

Cutaneous tuberculosis affects up to 2% of all patients with tuberculosis and makes approximately 10% of all cases of extrapulmonary tuberculosis.[1] Lupus vulgaris (LV) is the most prevalent clinical type of Cutaneous Tuberculosis.[2] Lupus vulgaris is seen in already sensitized hosts with highly positive immunity to tuberculin. It has a chronic course and has a wide range of morphological variations. Plaque type is the most common morphological variant of LV while the other types are ulcerative, vegetative, hypertrophic, papular, and nodular types.[2] Diagnosing a case of Lupus vulgaris with varied presentation can be a challenge sometimes. We report a case of ulcerated variant of lupus vulgaris in a person staying in close contact with two family members of treated pulmonary tuberculosis where family history of tuberculosis proved helpful in reaching the rare diagnosis of ulcerative lupus vulgaris.

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Case report

A 30-year-old male presented to Skin OPD with non-healing ulcer of three years duration involving the upper trunk. The lesion increased gradually and was accompanied by purulent discharge that was occasionally blood stained. No history suggestive of trauma to that site preceding the development of lesion was elicited. There was no history of prolonged illness in patient. There was a positive family

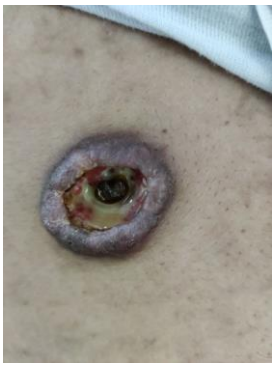

Figure 1

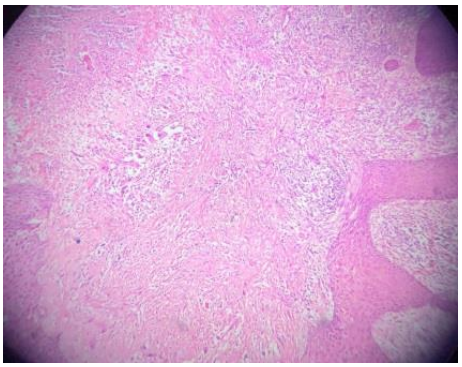

Figure 2

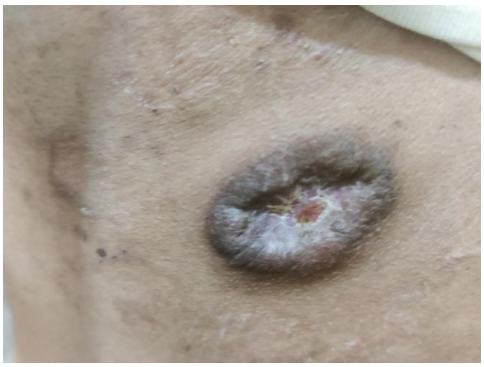

Figure 3

history of Pulmonary Tuberculosis in mother (six years back) who had completed Anti tubercular treatment (ATT) regimen and was declared cured. Patient's father had also completed treatment for Pulmonary Tuberculosis four years back. The previous treatment records of patient revealed various courses of systemic and topical antibiotics without any response.

Cutaneous examination revealed a solitary round deep ulcer of size 3 X 3 cm on left lateral aspect of upper trunk. The margin was violaceous with rolled out edge, floor had necrotic tissue with slightly purulent discharge **(Figure 1)**. On palpation, it was firm and non tender. There was no abnormality detected in his general physical examination. The result of routine hematological and biochemical investigations were normal. Chest X-ray was unremarkable. The serological tests for HIV and Syphilis were normal. Mantoux test using purified protein derivative revealed a positive reaction of 21 mm at 48 hours. The screening of sputum for presence of Mycobacterium tuberculosis was negative. An incisional biopsy was done and sent for histopathological examination which revealed patchy nodular tuberculoid granulomatous infiltrate made up of lymphocytes, plasma cells, histiocytes and epitheloid cells with occasional giant cells **(Figure 2)**. Fungal culture and mycobacterial culture of the biopsy specimen was negative. The Truenat TB test from sputum was negative in the patient.

Based on the clinical presentation backed by a positive family history of Tuberculosis in two immediate contacts, a provisional diagnosis of Ulcerative Lupus vulgaris was made. The diagnosis was confirmed by a positive tuberculin test and histopathology report. The patient was started on antitubercular treatment which included two months of 300mg of isoniazid, Cap Rifampicin 450 mg, Pyrazinamide 1500 mg and Ethambutol 1200 mg. This was followed by Isoniazid 300 mg and Rifampicin 450 mg for four months. There was a noticeable improvement in the lesion with total resolution in four weeks of starting ATT **(Figure 3)**.

Discussion

Lupus vulgaris is a form of cutaneous tuberculosis arising in people who have been already sensitized to mycobacterium and have moderate to high immunity. It can arise exogenously or endogenously either from an underlying focus of Tuberculosis or by haematological or lymphatic spread.[3] The most frequently affected sites include the head, neck in Europe while buttocks and lower extremities are commonly involved in India.[4] The initial lesion is a macule or papule which gradually enlarges and can have diverse presentations, thereby posing a diagnostic challenge. There is

necrosis, ulceration and marked scarring in the ulcerative form of LV. Although LV is a common variant of cutaneous TB, the ulcerative LV is a less common form. According to a study in India, ulcerative LV was the least common type of Lupus vulgaris.[5] The rarity of this form of cutaneous tuberculosis and occurrence in an uncommon site as seen in this patient makes it a diagnostic challenge. To aid the diagnosis of Lupus vulgaris, the various recent investigational tools and modalities are histopathological examination, culture of tissue and PCR for DNA identification of Mycobacterium tuberculosis.[2] An indirect and often overlooked indicator is the chronic history of disease and personal and/or family history of tuberculosis. Padmavathy L *et al.* in a study done on 71 cases of LV and Tuberculosis Verrucosa Cutis (TBVC) reported a positive family history in 9/39 (23%) of LV patients.[6] In another clinicopathological study of cutaneous tuberculosis, family history of tuberculosis was positive in 16 (38.1%) cases.[7] In a resource limited setting with suboptimal laboratory facilities, PCR, Truenat test and mycobacterial cultures are not accessible to all.

Conclusion

This case emphasises that a strong clinical suspicion of cutaneous TB when dealing with less common clinical presentations, supported by taking elaborate personal and family history, positive mantoux test and a therapeutic trial will help in early diagnosis and treatment in cutaneous tuberculosis, thereby reducing the burden of disease.

References

1. Rhodes J, Caccetta TP, Tait C. Lupus vulgaris:difficulties in diagnosis. *Australas J Dermatol*. 2013;**54(2)**:e53-5.
2. Yates VM, Mycobacterial Infections. In: Burns T, Breathnach S, Cox N, Griffiths C, editors. Rook's Textbook of Dermatology. 8th ed.Oxford: Blackwell Science; 2013. p. 31.1-31.41.
3. Parajuli N, Jha HK, Jonkman MF. Giant Arcuate Lupus Vulgaris with Rapid Progression: A Case Report. *JNMA J Nepal Med Assoc*. 2019;**57(218)**:275-7.
4. Nair PA, Mehta MJ, Patel BB. Ulcerative lupus vulgaris over nose, leading to cosmetic deformity. *Indian J Dermatol*. 2015;**60**:104.
5. Gunawan H, Achdiat PA, Hindritiani R, Essary ED, Ningtias LD, Siregar EP, Sori PR, Febrina D. Various cutaneous tuberculosis with rare clinical manifestations: A case series. *Int J Mycobacteriol*. 2018;**7**:288-91
6. Padmavathy L, Lakshmana Rao L, Pari T, Ethirajan N, Krishnaswamy B. Lupus vulgaris and tuberculosis verrucosa cutis (TBVC)- a clinical, pathological and epidemiological study of 71 cases. *Indian J Tuberc*. 2008;**55(4)**:203-9.
7. Thakur BK, Verma S, Hazarika D. A clinicopathological study of cutaneous tuberculosis at Dibrugarh district, Assam. *Indian J Dermatol*. 2012;**57(1)**:63-5.