

Case Report

Verrucous lesion over the foot: a diagnostic challenge

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ABSTRACT

Infection with *Mycobacterium tuberculosis* or other very closely related strains, as well as the inflammatory reaction of the host, define the disease tuberculosis. Cutaneous tuberculosis constitutes a small proportion of extrapulmonary tuberculosis. Extensive, multifocal involvement of cutaneous tuberculosis is a rare manifestation. We report one such case of tuberculosis verrucosa cutis in a 24 year old immunocompetent male patient.

Keywords: *Mycobacterium tuberculosis*, Cutaneous tuberculosis, Tuberculosis verrucosa cutis

INTRODUCTION

Tuberculosis is a world health problem, currently the ninth leading cause of death worldwide and the leading cause from an infectious agent, ranking higher than HIV.¹ Cutaneous tuberculosis accounts for 1.5% of all cases of pulmonary tuberculosis. Tuberculosis of the skin is a relatively rare manifestation with a wide spectrum of clinical findings depending upon the source of infection and immune status of the host. Tuberculosis verrucosa cutis or warty tuberculosis is a verrucous form of TB in a previously due to sensitized individual exogenous reinfection with *Mycobacterium tuberculosis* or *bovis*.² The disease usually presents as isolated verrucous plaque with scaling, crusting usually on exposed parts of body on limbs.³ It is asymptomatic and may not respond to usual treatment. Hereby we present a case of tuberculosis verrucosa cutis developing in a immunocompetent individual, discussing its clinical-immunological aspects along with the management.

CASE REPORT

A 24 year old young male presented to our outpatient department with a cauliflower like growth on plantar aspect of bilateral foot for 2 years duration. The lesion started as a painless asymptomatic raised papule over the right foot which later increased in size. After 3 months, similar lesion developed over left foot which was associated with mild pain. There was no associated discharge or itching or trauma. Patient did not give any symptoms of generalized fever, bodyaches, weight loss. He had history of pulmonary tuberculosis for which he took incomplete treatment for 3 months along with history of tuberculosis in one family member. Physical examination showed emaciated thin built with palpable lymph nodes in axillary and inguinal region. Dermatological examination revealed well defined hyperkeratotic non-tender verrucous plaque of 8×6 cm on plantar aspect of right foot with palpable inguinal lymph nodes, during the course of stay in hospital one of the lymph node got ulcerated. Clinically deep fungal infections such as blastomycosis, chromomycosis, fixed

sporotrichosis, callosities, cutaneous warts, hypertrophic lichen planus were the differentials. Routine examination Hb: 5.6 gm%, WBC: 4500/mm³. Chest X-ray showed patchy homogenous areas of radiopacities in bilateral upper and midzones with prominent bronchovascular markings. High-resolution computed tomography (HRCT) showed additional abdominal and retrocrural lymphadenopathy suggestive of infective etiology. Mantoux test was positive with 13×12 cm induration. Microscopic examination for sputum acid-fast bacillus and culture was negative. Fine needle aspiration cytology showed necro-inflammatory background with no lymphoid or malignant cells. Both HIV and venereal disease research laboratory tests were negative. 10% potassium hydroxide smear preparation was negative for fungus. Skin biopsy from the foot lesion showing striking pseudoepitheliomatous hyperplasia with diffuse tuberculous granuloma, with histiocytes and giant cells in the dermis was consistent with tuberculosis verrucosa cutis. Radiographs of the foot showed only soft tissue swelling without any underlying bone involvement. Patient was then started on WHO category-1 antitubercular drugs.



Figure 1: Single well-defined 7×6 cm verrucous plaque plantar aspect of left foot.



Figure 2: Similar lesion over the lateral aspect of right foot.

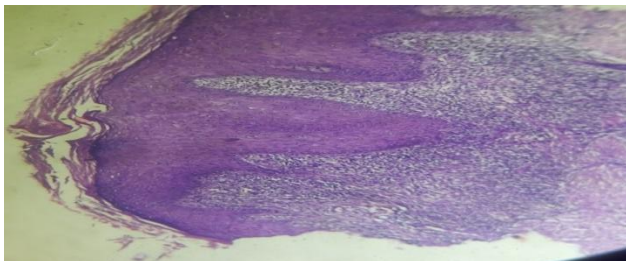


Figure 3: H and E staining showing pseudoepitheliomatous hyperplasia.

DISCUSSION

The incidence of different forms of cutaneous tuberculosis varies globally. With increasing number of cases and improved diagnostic tools, many uncharacteristic manifestations have been discovered recently.⁴ Classified as exogenous (tubercular chancre, warty tuberculosis, lupus vulgaris) and endogenous (scrofuloderma, lupus vulgaris, tuberculous gumma) and tuberculides (lichen scrofulosum, papulo-necrotic tuberculid, erythemanodosum, erythema induratum). Tuberculosis verrucosa cutis or warty tuberculosis results from inoculation of tubercle bacilli in previously sensitized individual with *M. tuberculosis* or *M. bovis*. In the past, the disease was usually found amongst pathologists, autopsy room attendants, butchers and undertakers. Adult men are more often involved because they are involved in manual work and are liable to trauma.⁵ The most common site for appearance is lower limbs. The diagnosis is based on history, evolution, cardinal morphological feature and histopathologic characteristics.⁵ Psoriasiform, keloidal, crusted, exudative sporotrichoid, destructive, tumor-like, exuberant granulomas are main variants of tuberculosis verrucosa cutis. Culture and microscopy is usually negative as it is a paucibacillary lesion.⁶ In our case, patient had previous history of incomplete treatment with positive findings of multifocal lymphadenopathy with chest X-ray showing opacities and HRCT showing infective etiology. Eventually histopathologic characteristics confirmed the diagnosis of tuberculosis verrucosa cutis.⁷ Also, it needs to be differentiated from malignant tumor and deep fungal infection.

CONCLUSION

Cutaneous tuberculosis continues to be a significant problem even with advent of highly effective antitubercular drugs. Diagnosis is based on clinical manifestations, histopathologic analysis, and demonstration of the relevant mycobacteria in tissue or in culture and host reaction to *M. tuberculosis* antigen. Course and prognosis depend upon the immune status of the host.

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REFERENCES

1. Asgedom SW, Tesfaye D, Nirayo YL, Atey TM. Time to death and risk factors among tuberculosis

- patients in Northern Ethiopia. *BMC Res Notes.* 2018;11(1):696.
2. Reider HL. Tuberculosis verrucosa cutis: clinical picture and response to short course of chemotherapy. *J Am Acad Dermatol.* 1988;18:1367-9.
 3. Mohanty N, Nayak BB. Cutaneous tuberculosis verrucosa cutis. *Indian Assoc Dermat Venereol Leprosy.* 2014;7:53-5.
 4. Sehgal VN, Wagh SA. Cutaneous tuberculosis. Current concepts. *Int J Dermatol.* 1990;29:237-52.
 5. Rajan J, Mathai AT, Prasad PV, Kaviarasan PK. Multifocal tuberculosis verrucosa cutis. *Indian J Dermatol.* 2011;56:332-4.
 6. Vora RV, Diwan NG, Rathod KJ. Tuberculosis verrucosa cutis with multifocal involvement. *Indian J Dermatol.* 2016;7:60-2.
 7. Bairagya TD, Das SK, Bhattacharya S. Tuberculosis verrucosa cutis: a case report from a rural medical college of India. *Ann Trop Med Public Health.* 2012;5(4):381-2.

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