



# Tuberculosis Verrucosa Cutis

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## ABSTRACT

Tuberculosis of skin is a quite common condition in India, which by morphology mimics a variety of skin conditions and is often missed on examination or misdiagnose due to lack of familiarity. A high degree of suspicion is always necessary when considering the differential diagnosis of common skin conditions like psoriasis, chronic eczema or hypertrophic lichen planus. This case report aims to discuss the approach of slowly progressing plaque lesion, diagnosis and treatment of the same.

**KEY WORDS :** Cutaneous tuberculosis, asymptomatic warty plaque, antituberculosis therapy

## Introduction

TB of skin manifests with a wide spectrum of clinical findings depending on the source of infection and the immune status of the host.

Diagnosis is based on clinical manifestations, histopathological analysis, and demonstration of the relevant mycobacteria in tissue or in culture and host reaction to M.Tuberculosis antigen.

Treatment is with standard multidrug regimens course and prognosis depend on the immune status of the host. Treatment is curative except for patients with a breakdown of the immune system [1-2].

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## Case Report

### History

24 year old male presented with an asymptomatic well defined lesion in the outer side of right foot of six months duration.

The lesion started as a small papule and gradually progressed to a well-defined plaque of 5 cm x 2 cm in six months duration. As the lesion was asymptomatic, patient had not taken any treatment. He is a lab technologist by occupation and often handles infected sputum.

### Examination

A single, well defined, erythematous plaque with hyper pigmented borders & hyper keratotic surface was seen in lateral border of right foot.

It was 5 cm x2cm in size. The plaque was gradually spreading distally.

## Diagnosis

As the lesion was asymptomatic with slow progression ( no remission /exacerbations) a diagnosis of psoriasis, Hypertrophic Lichen planus and lichen simplex chronicus (Chronic eczema) were excluded though the lesion morphologically mimics the above conditions.

Finally the following differential diagnosis were considered.

1. Tuberculosis Verrucosa Cutis.
2. Chromoblastomycosis (Subcutaneous fungal infection)

## Investigations

Total Count -8600, P-62%, Lymphocytes -30%, Monocytes -8%, Hemoglobin - 13.3gm, Haematocrit -39, Platelet Count -4.5 lakhs

ESR (Erythrocyte Sedimentation Rate) (- 5 mm, RBS/Urea/Creatinine -Normal values, Mantoux-positive (15 mm), X- Ray chest - Normal

Before Treatment



After Treatment



## Histopathology

Biopsy of the lesion given at two different pathology centres confirmed the presence of granuloma with groups of epithelioid cells and multinucleated giant cells. There were no fungal elements in the sections.

## Final diagnosis

Tuberculosis verrucosa cutis.

## Treatment

The patient was started on antituberculous therapy. The lesion resolved well after completion of ATT.

## Discussion

### Cutaneous Tuberculosis : TBVC

Tb of skin is caused by M.Tuberculosis, M.bovis, and under certain conditions, Bacilli Calmette-Guerin (BCG), an attenuated strain of M.bovis originally developed for vaccination [3]

### Classification of Cutaneous Tuberculosis

1. Inoculation tuberculosis (exogenous source) - Tuberculosis chancre
  - warty tuberculosis (TBVC)
  - Lupus Vulgaris (some)
2. Secondary Tuberculosis (endogenous source)
  - A. Contiguous spread - Scrofuloderma
  - B. Auto Inoculation - orifical tuberculosis
3. Haematogenous Tuberculosis
  - Acute military tuberculosis
  - Lupus Vulgaris (some)
  - Tuberculosis Gumma

#### 4. Eruptive Tuberculosis

(the tuberculides)

1. Micropapular - Lichen Scrotulosorum
2. Papular - Papular or papulonecrotic tuberculides - induratum (Bazin)
3. Nodular - Nodular vasculitis (some)

#### Definition of TBVC

An indolent, warty, plaque like form of TB occurring as a result of the inoculation of organisms into the skin of a previously infected patient who usually has a moderate or high degree of immunity. In our patient, the lesion was an asymptomatic hyperkeratotic plaque and was slowly progressing [4].

#### Pathogenesis

Lesions arise in three ways

1. Accidental super infection from extraneous sources.

Physicians, Pathologists and post mortem attendants are traditionally at risk.

Autoinoculation with sputum in a patient with active tuberculosis.

Children and young adults, already infected and having some degree of immunity become injected from sputum by sitting or playing where the organism is present.

Our patient was a lab technologist who had chances of exposure to infected sputum specimens.

#### Histopathology

Epidermis - Pseudoepitheliomatous hyperplasia with superficial abscess formation.

Dermis - Intense, mixed infiltrates may show only sparse. Tuberculous foci. Bacilli are seen only occasionally.

Histopathology of our patient showed a well formed granuloma with epithelioid cells and multinucleated giant cells suggesting a tuberculous foci.

#### Clinical Features

Lesions occur on those areas exposed to trauma or infected sputum. The lesion starts as small, symptomless, indurated warty papule.

By gradual extension a verrucous plaque is formed. Irregular extension at the edges leads to a serpiginous outline with finger like projections. The centre may involute and form a massive infiltrated papillomatous excrescence. The colour is purplish, red or brown. The consistency is generally firm but there may be areas of relative softening. Pus may sometimes be expressed. At times the appearance is psoriasiform or keloidal. Occasionally exudative and crusted features are predominant [5-6].

#### Anomalous Forms

Deeply destructive papillomatous form  
Sclerotic form  
Generalized  
Granulomatous form.

In our patient, the clinical picture was a classical form of asymptomatic, slowly progressive hyperkeratotic plaque which was highly suggestive of cutaneous tuberculosis [7].

#### Differential Diagnosis

1. Warts
2. Blastomycosis, chromoblastomycosis, actinomycosis.
3. Leishmaniasis
4. Tertiary syphilis
5. Hypertrophic Lichen Planus
6. Psoriasis
7. Lichen simplex chronicus
8. Non tuberculous mycobacterial infections.

## Prognosis

The condition responds to antituberculous treatment, without it, extension is usually extremely slow and lesion may remain virtually inactive for months or years. Spontaneous remission often occurs. Active disease of other organs should be looked for, as osseous glandular or pulmonary tuberculosis may coexist.

Our patient responded well to antitubercular therapy and lesion resolved well in six months.

## Conclusion

Asymptomatic, slowly progressing warty plaques should not be ignored and needs evaluation based on the possible differential diagnosis.

Skin biopsy is a useful investigation for identifying and differentiating various important skin conditions.

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