



## Case Report

## Multifocal polymorphous cutaneous tuberculosis with Poncet's disease: A case report

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## ABSTRACT

Extrapulmonary tuberculosis (ETB) involving skin with multiple lesions is an uncommon presentation of mycobacterial infection. Cutaneous tuberculosis (TB) having multiple lesions with Poncet's disease (tuberculous Rheumatism) is rarely reported. We hereby report a multifocal cutaneous tuberculosis with Poncet's disease in a 19-year-old immunocompetent female.

### 1. Introduction

Tuberculosis verrucosa cutis (TBVC) is a form of exogenous cutaneous TB presenting as warty plaque-like lesions and constitutes an extrapulmonary form of tuberculosis. Inoculation of tubercle bacilli from minor wounds or injury is the chief mode of acquiring TBVC [1,2]. In India, the overall incidence of inoculation TB is very low (2%) [3]. Lupus vulgaris (LV) presents an indolent plaque with active spreading edge which can be acquired via hematogenous dissemination from systemic focus or via inoculation from injury.

Poncet's disease is an unusual non infective form of arthritis presenting as polyarthralgia in patients having active tuberculosis, without direct evidence of bacterial invasion of the joints [4]. Currently there is a gap in understanding of Poncet's disease and our case can help in bridging the gap.

We hereby report a case of multifocal cutaneous TB (TBVC with lupus vulgaris) in association with tuberculous rheumatism (Poncet's disease) in a young female.

### 2. Report

A 19-year-old female patient resident of small village in Wardha district located in Central India was referred to our department for skin lesions on various body parts. She reported to have a lesion over left buttock for past five years (Fig. 1). After one year, the patient noticed warty lesion over right thumb (Fig. 2). Over the next six months, she

noticed another lesion near left eye (Fig. 3). She did not report any traumatic injury prior to development of lesions. She did not have any history of contact with an infective case of tuberculosis in her close contacts.

Her physical and systemic examination was within normal range except for being under weight (BMI-18). There was no enlargement of regional draining lymph nodes. Complete hemogram and routine serum biochemistry for liver and renal function were within reference range except for mild anemia (9 g/dl) and raised erythrocyte sedimentation rate (25 mm at the end of one hour). Radiography of the chest did not show any lung parenchyma abnormality. Tuberculin skin test performed with tuberculin purified protein derivative (10TU/0.1 ml) showed positive reaction with induration measuring 12 mm in diameter (Fig. 4). Skin biopsy from one of the lesions (left buttock) showed chronic granulomatous inflammation in the dermis composed of lymphohistiocytic infiltration (Fig. 5).

On the basis of clinical and pathological correlation we diagnosed her to have multifocal cutaneous tuberculosis. The lesions on left buttock and left periocular area were diagnosed to be lupus vulgaris and the one on right thumb was diagnosed to be tuberculosis verrucosa cutis (TBVC). Due to lack of facility for carrying out PCR-based study we could not perform DNA based diagnostic test on the tissue specimen. We were unable to find any underlying cause of immune-suppression in our patient. Serology for HIV infection was negative. Culture of tissue material obtained on skin biopsy did not show any growth of tubercle bacilli.

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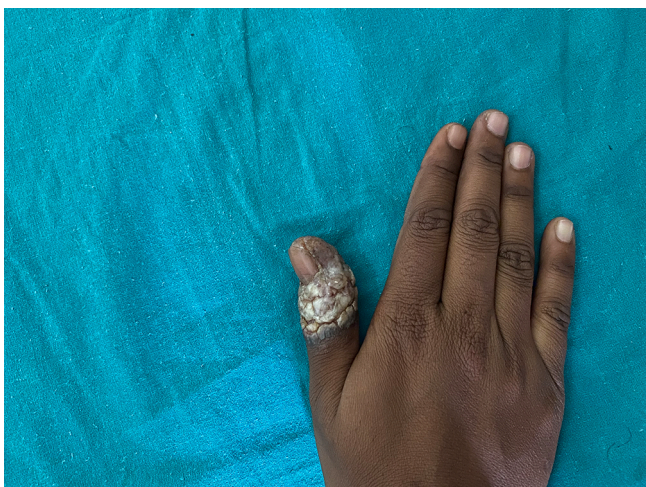
<https://doi.org/10.1016/j.jctube.2023.100356>



**Fig. 1.** The left buttock shows a well-defined patch having scarring with foci of active inflammation within the scarring area.



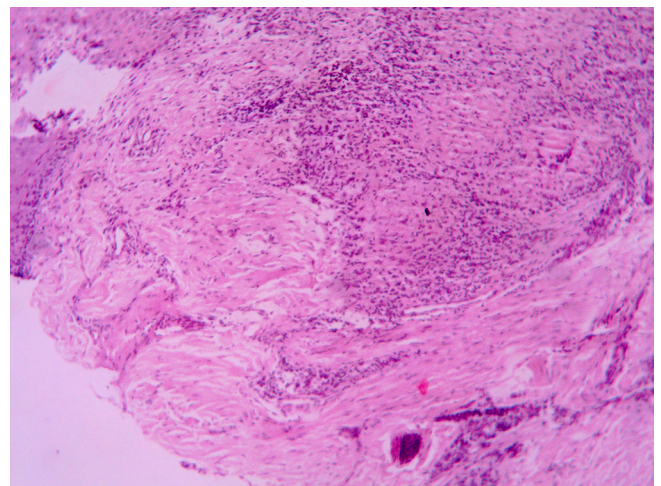
**Fig. 4.** Tuberculin skin test showing positive reaction.



**Fig. 2.** Right thumb showing a warty growth with verrucous surface.



**Fig. 3.** Periocular area near left eye showing granulomatous plaque extending on the nose and inner canthus.



**Fig. 5.** H&E-stained section from one of the lesions showing diffuse granulomatous pathology comprising of lymphohistiocytic infiltrate with occasional giant cells in the dermis.

On review follow-up, she complained of multiple joint pain of lower limb and morning stiffness for past fifteen days. X ray of affected joint showed non erosive and non-deforming features of inflammatory arthritis. Her RA factor and anti-CCP titer were negative for rheumatoid arthritis. A rheumatology opinion was sought for evaluation of multiple joint pain and it was diagnosed to be tuberculous rheumatism (Poncet's arthritis) on the basis of Sharma and Pinto's diagnostic criteria for Poncet's arthritis and was managed conservatively with anti-inflammatory drugs.

She was prescribed four drug anti-tuberculous therapy (Rifampicin 10 mg/kg, Pyrazinamide 25 mg/kg, Isoniazid 5 mg/kg and Ethambutol 15 mg/kg) as per our national guidelines along with oral pyridoxine supplement (20 mg twice a week). As per rheumatology opinion, we continued anti-tubercular therapy along with anti-inflammatory drugs. Anti-inflammatory drugs for joint pain were stopped after two weeks since patient reported resolution of joint pain and morning stiffness.

### 3. Discussion

Multi-focal cutaneous tuberculosis with different morphology is an uncommon presentation of cutaneous tuberculosis. TBVC usually presents on lower limb as evident in a case series of seventy-one patients

**Table 1**  
Sharma and Pinto's diagnostic criteria for Poncet's arthritis.

<b>Essential criteria</b>	Inflammatory, non-erosive, non-deforming arthritis Exclusion of other causes of inflammatory arthritis
<b>Major criteria</b>	Concurrent diagnosis of extra-articular tuberculosis
<b>Minor criteria</b>	Complete response to antitubercular therapy 1. Mantoux positivity 2. Associated hypersensitivity phenomenon, such as erythema nodosum, tuberculids, or phlyctenular keratoconjunctivitis 3. Absence of sacroiliac and axial involvement
For diagnosis:	
<i>Definite</i> – Essential + two major	
<i>Probable</i> – Essential + one major + three minor	
<i>Possible</i> – Essential + one major + two minor, or Essential + three minor	

reported by Padmavathy et al. [5]. Involvement of multiple cutaneous sites without primary involvement of lungs is quite rare as previously described in two case reports by Prasad et al. and Verma R et al. [6,7]. The multifocal lesion signifies hematogenous dissemination of tubercle bacilli from the index lesion without involving the lungs [8].

Poncet's disease in association with cutaneous tuberculosis has been sparingly reported in the literature. Few workers have questioned the clinical existence of Poncet's disease, however sufficient scientific evidence supports its existence [4]. In our case, Rheumatologist was able to diagnose our case to have tuberculous rheumatism on the basis of following criteria (Table 1) [9].

The combination of multi-focal cutaneous tuberculosis in association with Poncet's disease is a rare entity. Primary care physician should keep high index of suspicion of Poncet's disease in patient with tuberculosis having joint pain provided other common cause of joint pain

(septic and rheumatic) are ruled out.

#### 4. Consent statement

Authors have obtained necessary written informed consent and permission from the patient for publishing the images in biomedical journal.

#### Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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