

# Tuberculosis Cutis Orificialis

Brett Stephen Mansfield<sup>1,2</sup> and Kim Pieton<sup>1,2</sup>

<sup>1</sup>Department of Internal Medicine, Chris Hani Baragwanath Academic Hospital, Johannesburg, South Africa, and <sup>2</sup>Department of Internal Medicine, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, South Africa

A 24-year-old female was referred to the department of plastic surgery with a large, painful, fungating lesion of the upper lip that had gradually enlarged over the preceding 9 months (Figure 1). She reported a 9-month history of chronic cough, together with night sweats and significant weight loss, which she quantified by a drop in 2 clothes sizes. She had no medical history and no recent travel history.

Physical examination was notable for temporal wasting and bilateral cervical lymphadenopathy. Right upper lobe crackles were heard upon auscultation of her chest.

A chest x-ray confirmed the presence of a right upper lobe reticulo-nodular infiltrate, and a complete blood count revealed a normocytic anemia (haemoglobin 10.6 g/dL). Liver and renal function were within normal limits. A test for HIV was negative.



**Figure 1.** Large fungating lesion on the upper lip.

Correspondence: Brett Stephen Mansfield, MBCh, MSc, Department of Internal Medicine, Chris Hani Baragwanath Academic Hospital & The University of the Witwatersrand, Chris Hani Road, Diepkloof, Johannesburg, South Africa ([bmansfield@hotmail.com](mailto:bmansfield@hotmail.com)).

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A sputum sample sent for Xpert MTB/RIF assay was positive for *Mycobacterium tuberculosis* nucleic acid without identification of resistance to rifampicin. *Mycobacterium tuberculosis* was also cultured from sputum after 14 days using Mycobacteria Growth Indicator Tube (MGIT) liquid culture. The GenoType MTBDRplus assay was used for speciation and to genotypically assess for resistance mutations to rifampicin and isoniazid, of which none were identified.

Two tissue biopsy specimens obtained from the upper lip lesion demonstrated a dense subepithelial inflammatory cell infiltrate and granulomatous inflammation with no features of dysplasia or invasive malignancy. No viral cytopathic changes were noted. Grocott, Alcian blue, and Periodic-acid Schiff stains failed to identify fungal elements. A Ziehl-Neelsen stain highlighted the presence of acid-fast bacilli. Fine needle aspiration of the enlarged cervical lymph nodes demonstrated granulomatous inflammation in keeping with mycobacterial infection.

A diagnosis of pulmonary and cutaneous mycobacterium tuberculosis (specifically, tuberculosis cutis orificialis) was made based on sputum and histopathology results. Cutaneous tuberculosis is uncommon and occurs in 1%–2% of all cases of tuberculosis [1]. Clinical presentations vary widely and are dependent on the mode by which the disease is spread, whether hematogenous, contiguous, or by direct inoculation (Table 1) [1]. Additionally, pauci-bacillary cutaneous hypersensitivity

**Table 1. Classification of Cutaneous Tuberculosis According to Mode of Infection**

Direct inoculation
Tuberculosis verrucosa cutis
Primary inoculation tuberculosis (tuberculous chancre)
Contiguous spread
Tuberculosis cutis orificialis
Scrofuloderma
Lupus vulgaris
Hematogenous spread
Acute cutaneous miliary tuberculosis
Metastatic tuberculous abscesses (tuberculous gumma)
Lupus vulgaris
Tuberculids
Papulonecrotic tuberculid
Erythema induratum of Bazin
Lichen scrofulosorum



**Figure 2.** Photograph of tuberculosis cutis orificialis after 2 months of antituberculosis therapy.

reactions due to mycobacterium tuberculosis may occur in individuals with a high degree of immunity [2].

Tuberculosis cutis orificialis is a rare form of cutaneous tuberculosis and is due to the autoinoculation of mucocutaneous tissues from a visceral site of infection such as the lungs, gastrointestinal tract, or genitourinary tract [3]. It usually presents as a painful oral or anal ulcer, but hypertrophic, verrucous plaques are occasionally seen [1]. Important differential diagnoses for

tuberculosis cutis orificialis include cutaneous malignancy, fungal infections (paracoccidiomycosis), viral infections (herpes simplex), and bacterial infections (syphilis) [2].

Treatment of cutaneous tuberculosis can be difficult. It depends on the extent of the disease, the host immune status, or the presence of drug-resistant tuberculosis. Our patient was started on antituberculosis therapy comprising rifampicin, isoniazid, ethambutol, and pyrazinamide with a plan to complete 6 months of treatment. After 2 months of treatment, the skin lesion showed a marked improvement (Figure 2).

This case highlights the variable ways in which tuberculosis may present. Cutaneous tuberculosis should be considered in any patient with an unexplained ulcer, papule, nodule, warty lesion, or plaque, particularly in patients living in, or traveling from, countries in which tuberculosis is regarded as endemic.

### Acknowledgments

*Financial support.* None.

*Conflicts of interest.* None. All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

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