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Case Report

Lupus vulgaris on the buttock mimicking tinea corporis

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Abstract Lupus vulgaris is the most common form of cutaneous tuberculosis which usually occurs in patients previously sensitized to *Mycobacterium tuberculosis*. It is often clinically and histopathologically confused with various cutaneous disorders. Here, we present a 28-year-old man attended in our medical college with slowly progressive, asymptomatic, annular erythematous skin lesions on the buttocks for 8 years. He consulted with many physicians and was improperly treated with an oral antifungal agent for several months under the diagnosis of tinea corporis, but no cure was observed. A diagnosis of lupus vulgaris was made based on the histopathological examination and the polymerase chain reaction. Anti-tuberculosis therapy was administered and the lesions started to regress.

Key words
Lupus vulgaris, histopathological examination, polymerase chain reaction.

Introduction

Lupus vulgaris (LV) is a chronic and progressive type of cutaneous tuberculosis which usually affects the face.[1] It may lead to considerable disfigurement and squamous cell carcinoma, occasionally if left untreated. Clinically, LV shows a diverse morphology ranging from flat plaques to hypertrophic, papulonodular and tumorous lesions.[1,2] Similarly, it can affect atypical sites. We report a 28-year-old male with plaque of LV on his buttocks which had been misdiagnosed for years as tinea corporis and eczema.

Case report

A young man of 28-years presented with well-defined, progressive, asymptomatic, annular erythematous skin lesion on his buttocks around the anus for 8 years. He had previously received different therapies such as antifungals, antibiotics and corticosteroids. He had been previously treated with oral and topical antifungal agents for several years under the diagnosis of tinea corporis at several clinics, and none of these medications was effective.

On physical examination, we observed a well-demarcated, irregular bordered, erythematous plaque with polycyclic, indurated margins on the perianal region of buttocks (**Figure 1**). The results of the laboratory tests, including a complete blood cell count, basic biochemical profile and chest X-ray, were within normal limits. But the Mantoux test was positive with 18 mm induration after 72 hours. An elliptical incision was made along the border of the lesion to take the biopsy specimen. Histopathology of the lesion revealed acanthosis and irregular papillomatosis of the epidermis, whereas the

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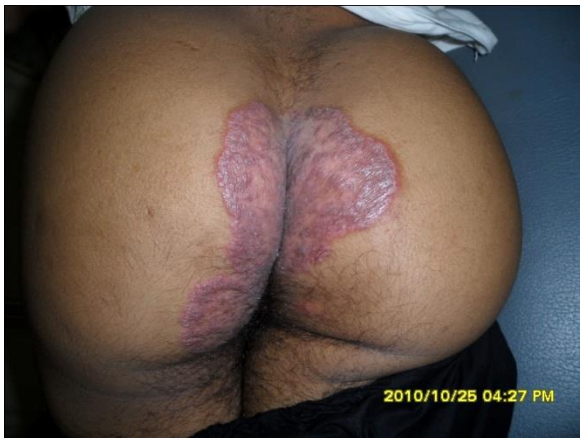

Figure 1 Annular plaque with central atrophic areas involving both buttocks.

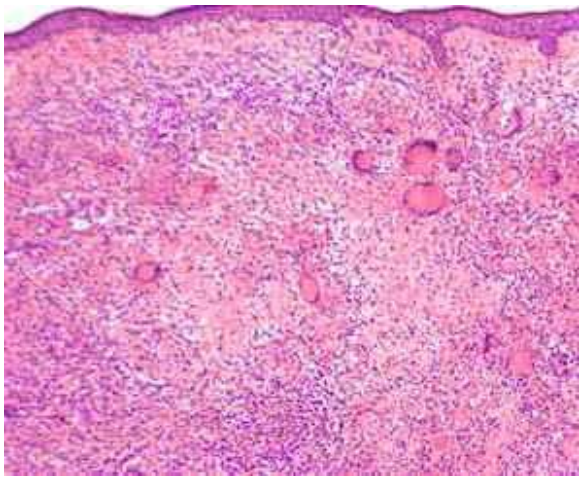

Figure 2 Multiple non-caseating granulomas comprising of Langhan giant cells and lymphohistiocytes.

dermis showed frequent non-caseating granulomas (**Figure 2**). Acid-fast bacilli were not found on Ziehl- Neelsen staining. A polymerase chain reaction (PCR) assay revealed the presence of *Mycobacterium tuberculosis* DNA in the lesional biopsy specimen.

A diagnosis of lupus vulgaris was made based on the cutaneous findings and this was supported by the histopathological findings and a positive PCR assay. He received a four-drug protocol (isoniazid 300 mg/day, rifampicin 600 mg/day, ethambutol 1,000 mg/day and pyrazinamide 1,500 mg/day) for the first 2months, followed by isoniazid and rifampicin maintenance therapy for another four months. The cutaneous lesions started to regress within 3 months and they healed with atrophic scarring at 8 months.

Discussion

Lupus vulgaris (LV) is usually a re-infection of tuberculosis of the skin and this is acquired either exogenously by direct inoculation of the bacilli or endogenously by hematogenous or lymphatic spread from an underlying infected focus.[1] In some cases, LV may develop exogenously following inoculation secondary to Bacille Calmette-Guerin vaccination.[3]

This malady classically presents as a solitary asymptomatic plaque with an atrophic centre and an infiltrated, serpiginous or polycyclic red-brown border. The plaque is formed by coalescence of soft, friable, gelatinous papules.[4] In European populations, 80% of the lesions are localized to the head and neck region, followed by the arms and legs.[4,5] In Turkey, LV has a predilection for the face (62%), followed by the forearms, chest, trunk and legs.[6] Misdiagnosis of LV sometimes occurs because of its rarity or its sporadic presentation in atypical forms.[7,8] In our case the polycyclic lesion was present on the buttocks, which is an uncommon form and site for LV. Our patient had also been misdiagnosed as suffering from tinea corporis or eczema and antifungal and steroid treatment for a long time had given no relief. The lesions had been improperly treated for about 8 years until the diagnosis was reviewed as LV.

Histopathological studies show tubercles or tuberculoid granulomas with slight or absent caseation in the papillary dermis and a variable degree of epidermal hyperplasia.[9,10] The histopathological differential diagnosis includes sarcoidosis, tuberculoid leprosy, granulomatous foreign body reactions and so on. Histological

and clinical differentiation of tuberculoid leprosy from LV is very difficult, if not impossible.[7,8] So not only histopathological examination, but also mycobacterial culture, a PPD test and PCR are important methods for diagnosing cutaneous tuberculosis. The microbial culture of LV is frequently negative, and only a 6% positivity rate has been reported for the cutaneous cultures from patients with LV.

The management of LV is similar to that of tuberculosis of other organs. But the localized forms of LV without evidence of associated internal tuberculosis may be treated with isoniazid alone for up to 12 months. A total dose of 80 to 140 g isoniazid may be required. Because viable mycobacteria have been found in clinically healed lesions, the treatment should be continued for at least 2 months after complete involution of the lesions.[11]

We report this case of LV that had uncommon clinical manifestations, and these manifestations mimicked fungal infection. We think that the diagnosis of LV should be kept in mind for patients with long standing skin lesions that do not respond to the routine treatments.

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