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Case Report

A woman with recurrent self healing erythematous patches on arms and trunk

女患者上肢及軀幹複發性自行消退性紅斑

TS Cheng 鄭天錫 and WY Lam 林永賢

A 26-year-old female presented with self-healing and recurrent scaly erythematous patches over the arms and trunk for 4 years. Histopathology showed CD30+ lymphoid cells. Clinical and pathological examinations confirmed the diagnosis of lymphomatoid papulosis. Regular follow-up is needed to detect possible malignant transformation to lymphomas.

26 歲華人女患者，4 年來於其上肢及軀幹出現鱗屑紅色斑片疹。病損呈複發性並自行消退。組織學檢查顯示CD30+淋巴樣細胞。臨床及病理學診斷為淋巴瘤樣丘疹病。患者需接受定期隨診，因患者有淋巴瘤惡性變異的潛在風險。

Keywords: CD30+ cutaneous lymphoproliferative disorder, Lymphomatoid papulosis

關鍵詞：皮膚淋巴細胞增生性疾病、淋巴瘤樣丘疹病

Introduction

Lymphomatoid papulosis (LyP) is a distinct entity in the WHO classification of lymphoid malignancies. It is grouped with primary cutaneous anaplastic large cell lymphoma (ALCL) and borderline lesions under the category of CD30-positive cutaneous lymphoproliferative disorders (CLPD).[1] CD30+ CLPD is the second most common cutaneous T-cell lymphoma after mycosis fungoides (MF), it makes up about 25% of cutaneous T-cell lymphoma cases. We report a female patient with LyP who presents with small erythematous patches that come and go.

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Case report

A 26-year-old female attended our clinic in April 2002 because of itchy rash on abdominal wall for 4 months. The patient had a past history of

schizophrenia and temporal lobe epilepsy. Physical examination showed a 2.5 x 1.5 cm well defined scaly erythematous patch on the abdominal wall near right inguinal area (Figure 1) and another erythematous patch of 0.5 cm in diameter on abdominal wall. She was given Travocort and there was decreased itching. The differential diagnoses included tinea corporis, discoid eczema, lichen simplex chronicus and psoriasis. Fungal examination and culture was negative and the first skin biopsy was done in November 2002. In the first biopsy, the pathological features were "consistent with lichen simplex chronicus".

The patient was given various topical steroids. Flattening of the lesions was noted. In September 2005, two discrete papules about 5 mm in diameter on medial arms and one small plaque on RLQ with a size of less than 1 cm were found. In October 2005, the patient was found to have one red patch on left inner arm (Figure 2) and another on right chest wall.

Differential diagnoses included fungal infection, discoid eczema, lichen simplex chronicus, psoriasis, pityriasis lichenoides chronica, lymphomatoid papulosis, premycotic stage mycosis fungoides, Bowen's disease, leukaemia cutis and cutaneous metastases.

A second biopsy was done in October 2005. The histopathology showed dense periadnexal and perivascular lymphoid infiltrate (Figure 3). The lymphoid cells were small to occasional large size among histiocytes (Figure 4). Mitotic figures were occasionally found. Eosinophils and plasma cells were inconspicuous. There were clusters of atypical lymphoid cells found invading the epidermis. The immunohistochemical study showed B cells limited to follicle-like aggregates and T cells scattered in the lesion and the intraepidermal clusters. Scattered activated lymphoid cells expressing CD30 could be identified (Figure 5). Polymerase chain reaction for T cell receptor gene demonstrated TCR J gamma. The diagnosis was lymphomatoid papulosis.

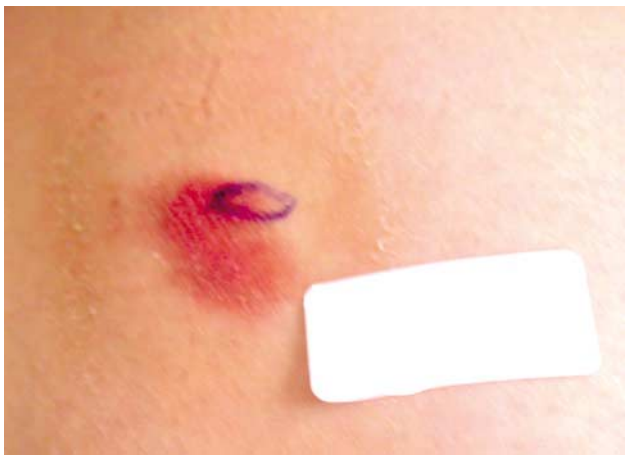

Figure 1. The first biopsy was performed on an erythematous thin plaque over the right inguinal area.

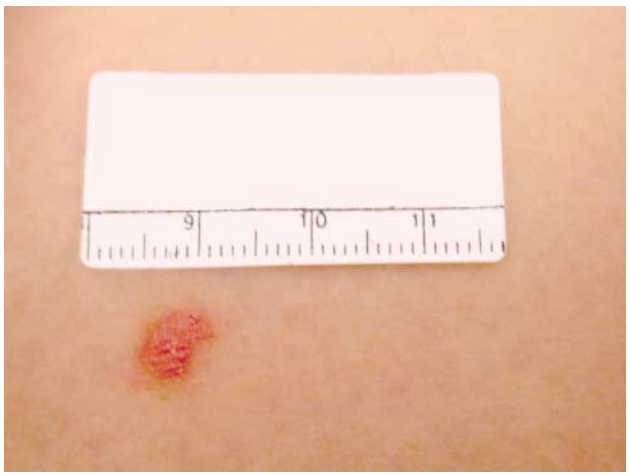

Figure 2. A rather well defined scaly erythematous patch on left arm.

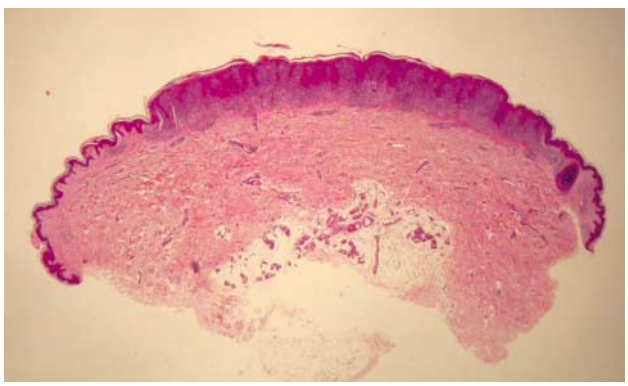

Figure 3. This papular lesion is formed of a band of lymphoid cells in the papillary dermis (H&E, Original magnification x 10).

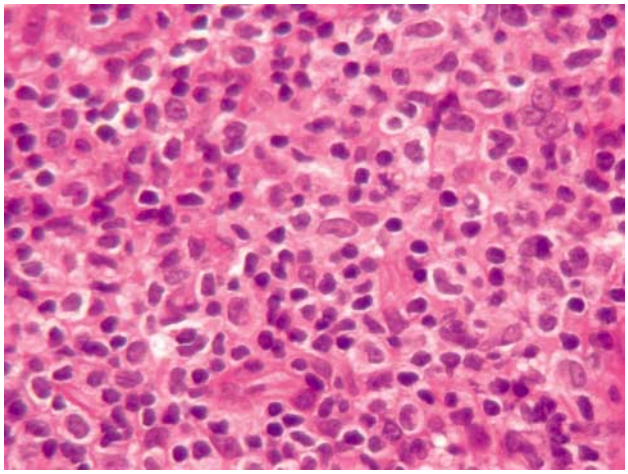

Figure 4. There are scattered large atypical lymphoid cells among small lymphocytes in this infiltrate. The large atypical cells possess nuclei of the anaplastic large cell lymphoma (ALCL) type and considerable cytoplasm (H&E, Original magnification x 400).

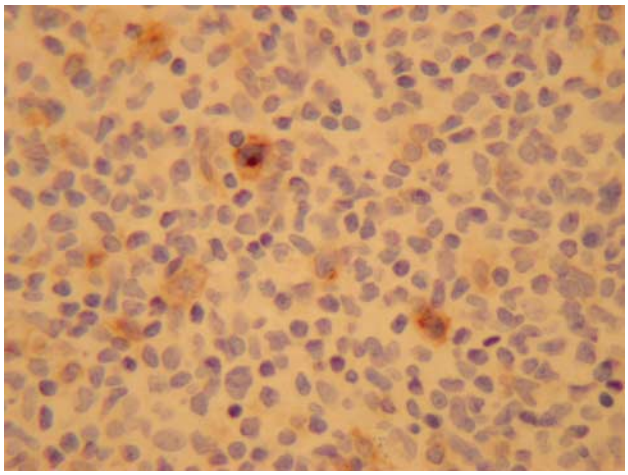

Figure 5. CD30 positivity in the large atypical ALCL cells (CD30 x 400).

Topical steroid was given (Synalar cream 0.0125%). Only infrequent erythematous popular/plaque lesions developed over the trunk between December 2005 and March 2006.

Discussion

LyP occurs at all ages with a peak incidence in the fifth decade. The male to female ratio is 2:1. The primary lesions of LyP are typically erythematous, dome-shaped papules or nodules. They spontaneously regress over a few weeks. The involution process includes scaling, crusting and ulceration. There is possible scarring with atrophy and hyperpigmentation. LyP occurs as cropped or generalised eruptions involving the trunk and proximal extremities. The lesions can occur anywhere on the body. It can less commonly present as a solitary lesion. The condition usually resolves over a span of 10 to 20 years. However, frequent relapses may occur.

Three histologic types exist in LyP.[2] Type A resembles Hodgkin's disease and is characterised by scattered large atypical CD30 lymphocytes with Reed-Sternberg appearance. Type B resembles MF and scattered large atypical lymphocytes that are highlighted by CD30 with cerebriform appearance can be found. In type C, there is a nodular or diffuse infiltrate of greater than 75% CD30 large atypical lymphocytes with obvious nuclear atypia.

In the literature, it has been shown that ten to twenty per cent of patients with LyP will have malignant transformation to T-cell and B-cell lymphomas, such as Hodgkin's disease, mycosis fungoides, anaplastic large-cell lymphoma, immunoblastic lymphoma, and angiocentric lymphoma. The malignant transformation can appear before, concurrently or after onset of LyP. Transformation period ranges from a few weeks to more than 40 years. All patients should be monitored throughout their lives.

In a series of 54 patients,[3] 21 patients (39%) with LyP had associated MF (16 patients: patch stage, 3 patients: plaque stage, 2 patients: tumour stage). LyP preceded MF in 14 patients (67%). MF preceded LyP in 4 (19%) and concurrent appearance was found in 3 patients (14%). Transformation into malignancy has also been described in children suffering from LyP.[4]

In a study of 12 patients (6 men and 6 women) presented with lymphomatoid papulosis and

mycosis fungoides,[5] skin biopsy specimens were taken from the different clinical lesions in each patient. A T cell receptor (TCR) γ gene rearrangement study was performed on the specimens. T-cell clonality was identified in 7 of 12 lymphomatoid papulosis lesions (58%) and in 6 skin biopsies of plaque stage mycosis fungoides (50%). In each case with T-cell clonality both MF and LyP specimens exhibited an identical pattern confirming a common clonal origin. Hence, both disorders are different clinical manifestations of a unique T-cell monoclonal proliferation. Only one case showed a clonal TCRγ rearrangement from the LyP lesion but not in the MF specimen.

The overall 5 year survival of LyP is 100%. The prognosis is better in LyP than ALCL. If there is history of MF before LyP, transformation of MF to CD30 large cell lymphoma needs to be considered. Transformed MF is usually associated with an aggressive clinical course. This is in contrary to MF associated with LyP and the favourable prognosis of LyP and primary cutaneous ALCL.

Benign behaviour of LyP and CD30 cutaneous ALCL might be explained by the high level of CD30 expression. CD30 is preferentially expressed by large atypical cells in LyP. It is expressed at higher levels in regressing than non-regressing skin lesions.

Treatment options of LyP include observation, potent topical corticosteroids, intralesional corticosteroids, topical 1,3,-bis-(2-chloroethyl)-1-nitrosurea (carmustine). Bexarotene has been found to be effective in clearing of LyP lesions. Repeated intralesional injections of IFN-[alpha]2b leads to resolution of individual lesions, particularly those that are small in size.

Systemic corticosteroids and oral antibiotics are of little benefit. Intravenous acyclovir may cause lesions to regress. However, recurrences are common when treatment is diminished or withdrawn. Other options include weekly low-dose methotrexate (oral or subcutaneous methotrexate), Mepolizumab (humanised monoclonal antibody to IL-5) and Imatinib (inhibits specific tyrosine kinases).[6] Surgical excision of lesions can be performed for patients with limited disease. PUVA may cause lesions to regress but recurrences are common when treatment is diminished or withdrawn. Radiation therapy is yet another option. Recently, medium-dose UVA1 therapy is also found to be useful in the treatment of LyP.[7]

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