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CASE REPORT

Prurigo Nodularis and Hodgkin's Lymphoma: A Rare Association

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ABSTRACT

Prurigo nodularis (PN) is an uncommon skin condition known to be associated with underlying systemic diseases. This case report is about PN secondary to underlying Hodgkin's lymphoma. A 30-year-old man presented with this skin condition three months before lymphadenopathy and systemic symptoms due to lymphoma. He had made multiple visits to general practitioners for the disturbing rash, given multiple courses of topical treatment without relief. His PN showed marked improvement after initiation of chemotherapy. This case reminds that an unexplained skin condition should prompt clinicians for investigating for an underlying systemic disease. This case, to our knowledge, is the first Hodgkin's lymphoma-associated prurigo nodularis reported in Malaysia.

INTRODUCTION

Paraneoplastic skin manifestations have been well described. Prurigo nodularis (PN) is a skin condition known to be associated with dermatological, psychological, systemic and neoplastic diseases[1]. PN is classically characterized by multiple, pruritic, hyperkeratotic nodules affecting the extensor surfaces of the lower extremities[2, 3]. The largest cohort on PN to date by Iking et al. (2013) revealed that PN is associated with an underlying systemic condition in 87% of cases[4], hence, clinicians when encountering unexplained unrelenting cutaneous lesions should prompt a search for systemic conditions.

Here, the authors would like to report a case of PN secondary to underlying Hodgkin's Lymphoma. To the authors' knowledge, in Malaysia there is by far no reported case of PN secondary to Hodgkin's lymphoma in literatures, whereas a local cohort in Singapore on PN did not report any underlying condition of Hodgkin's lymphoma either[5].

CASE PRESENTATION

A 30-year-old man with no underlying medical illness, experienced rashes over both lower limbs since April 2018. The rashes initially appeared on both dorsum of the foot, and gradually involved the extensor surfaces of the leg (the shin). The rashes were symmetrical, erythematous, nodular, hyperkeratotic, and pruritic with multiple scratch marks seen (Figure 1). The intense pruritus brought him to visit four different general practitioners in three months. He was given multiple courses of topical medications, including steroid, antibiotic, antifungal, emollient, as well as oral antihistamines. These medications were able to temporarily relieve the disturbing pruritus, yet the lesions and symptoms persisted. He did not have fever, night sweat, and his body weight and appetite had been the same.

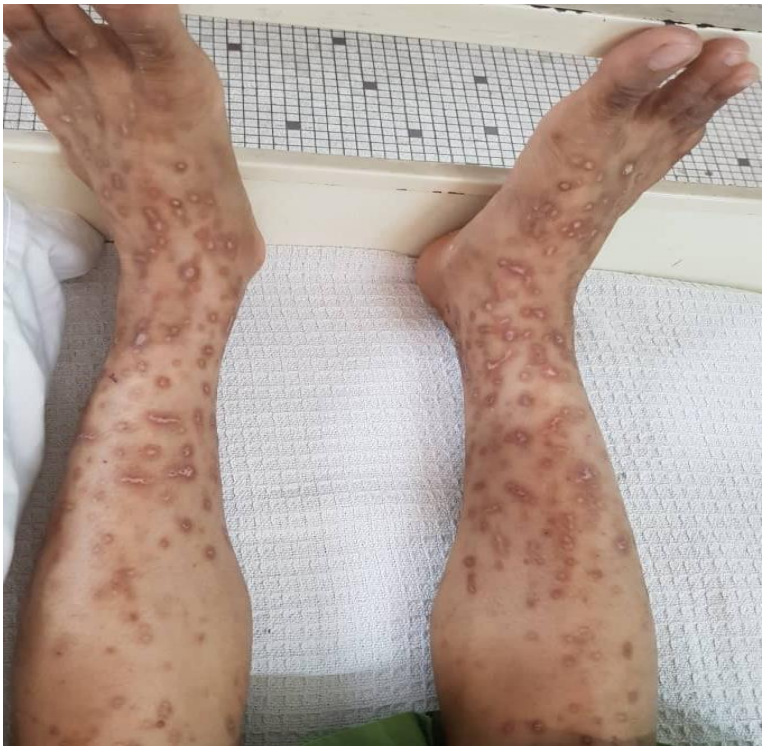

Figure 1 Symmetrical, erythematous, nodular and hyperkeratotic prurigo nodularis rashes affecting bilateral lower limbs

In July 2018, which was three months after the onset of rashes, he developed right neck swelling and facial swelling. He visited the general hospital and was found to have right-sided cervical lymphadenopathy, which was matted and rubbery. There was presence of facial and right upper limb oedema as well. Further investigation revealed a mediastinal mass on chest radiograph. A provisional diagnosis of lymphoma was made and he was referred for cervical lymph node biopsy followed by computed tomography (CT) staging. The histopathological examination of the cervical lymph node showed features classical of Reed-Sternberg cells consistent with Hodgkin's Lymphoma (Figure 2). CT imaging revealed a large anterior mediastinal mass measured 6.4 × 6.1 × 11.2 cm, complicated

by superior vena cava (SVC) obstruction and tumour thrombus in the right internal jugular vein (Figure 3). There were multiple enlarged right cervical and supraclavicular nodes seen. These findings concluded a stage 2A disease. His lower limb rashes were reviewed by the dermatology team and diagnosed as prurigo nodularis (PN).

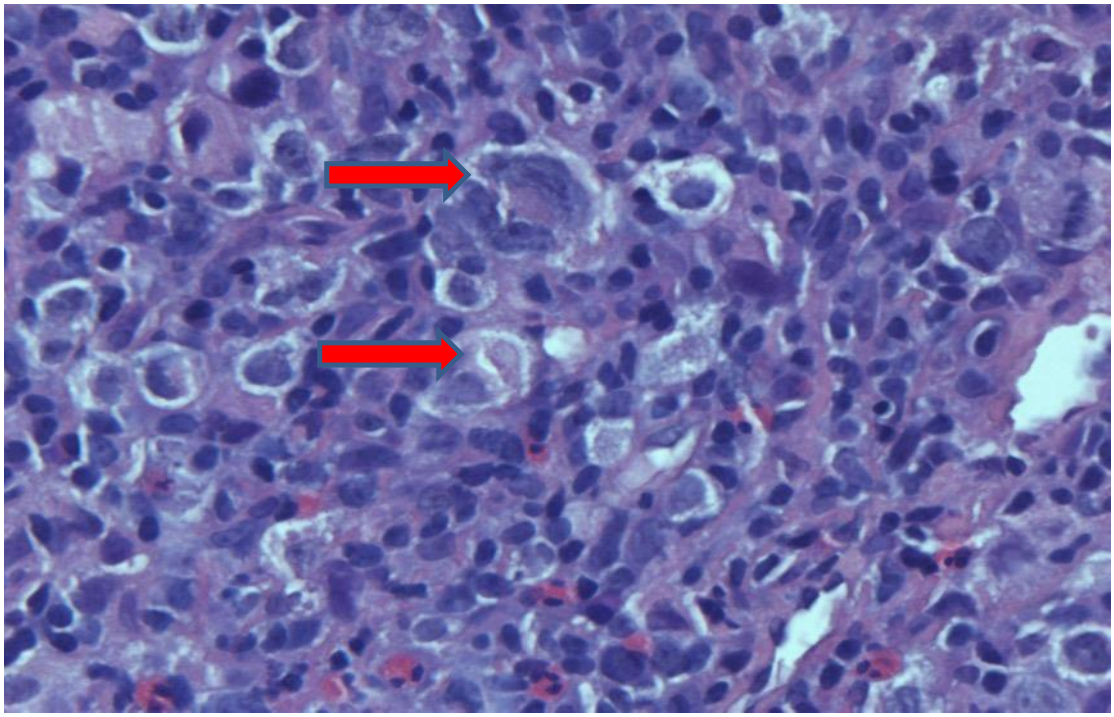

Figure 2 Photomicrograph of cervical lymph node (H&E stain 80×) showing Hodgkin's cells with polymorphic background (red arrows)

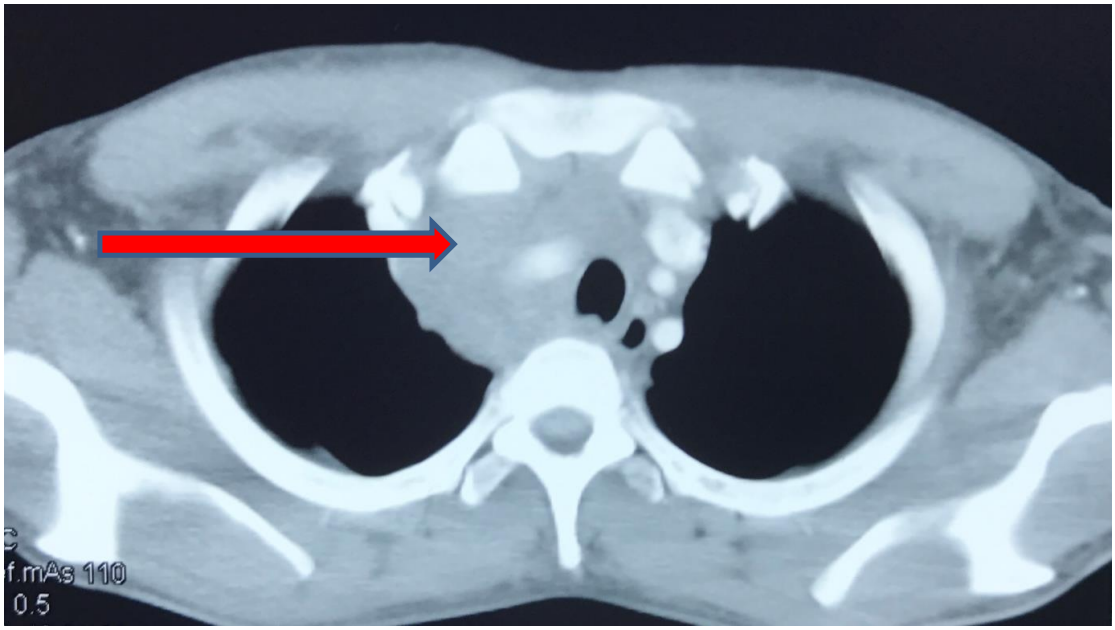

Figure 3 CT imaging showing a large anterior mediastinal mass (red arrow)

He was started on low molecular weight heparin for the internal jugular vein tumour thrombus (subcutaneous enoxaparin 1 mg/kg BD) and chemotherapy escalated BEACOPP protocol consisting of bleomycin (10 U/m^2 IVI in 100 ml normal saline over 5 minutes, Day 8), etoposide (200 mg/m^2 IVI in 1 L normal saline over 3 hours, Day 1 – 3), adriamycin (35 mg/m^2 IVI in 100 ml normal saline over 30 minutes, Day 1), cyclophosphamide (1250 mg/m^2 IVI slow bolus, Day 1), vincristine (1.4 mg/m^2 in 100 ml normal saline run fast, Day 8), procarbazine (100 mg/m^2 PO daily, Day 1 – 7) and prednisolone (20 mg/m^2 PO BD, Day 1 – 14), repeating cycle every 21 days for Hodgkin's lymphoma. The dermatology team started him on topical emollient, steroid, calamine lotion, as well as oral antihistamine for his prurigo nodularis.

After three cycles of escalated BEACOPP protocol, there was marked improvement in the symptom of pruritus. The PN rashes on the lower limb appeared less erythematous, fainted, with no more scratch mark seen (Figure 4).

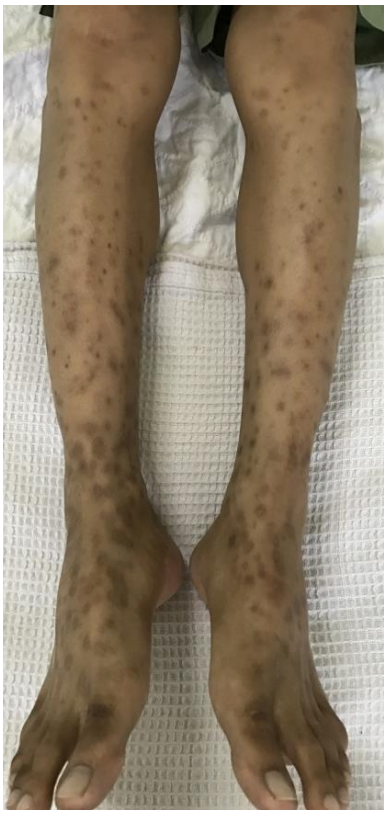

Figure 4 Prurigo nodularis rashes after 3 cycles of escalated BEACOPP. They appeared less erythematous and fainted.

DISCUSSION

Lymphoma can present as pruritus as part of the "B" symptoms. Lymphoma is also known to associate with cutaneous manifestations, such as eczema, prurigo nodularis, mycosis fungoidosis and erythema nodosum[6]. Therefore, when dealing with unexplained unrelenting pruritus, clinicians should have a broader list of systemic differential diagnosis. The differential diagnosis of PN is a long list, including dermatological disorders such as atopic dermatitis, cutaneous mycobacterial infection; systemic illnesses such as anaemia, diabetes; infective causes such as HIV infection, Helicobacter pylori infection; psychiatric disorders such as depression or anxiety; malignant lymphoproliferative disorders such as leukaemia and lymphoma[7].

This patient suffered from the intense pruritic rash of PN months before developing cervical lymph node swelling. Multiple visits had been made to general practitioners, multiple courses of topical medications had been applied yet the lesions persisted without improvement. This case illustrated the sinister cutaneous presentation of Hodgkin's lymphoma in our index patient and that such symptoms can present long before the diagnosis of Hodgkin's lymphoma. While international data exists on PN secondary to Hodgkin's lymphoma, local data however, is scarce. Bearing in mind PN is frequently associated with underlying systemic condition, clinicians should have a low threshold to prompt a search of systemic illnesses and refer to appropriate specialties when encountering such skin lesions, in order to make an early precise diagnosis followed by management.

CONCLUSION

This case illustrated that cutaneous manifestations such as prurigo nodularis can well be the initial and the only presentation of an underlying sinister condition. Clinicians should have a broader list of differential diagnosis when encountering difficult rashes like our index case, followed by appropriate consultations and referrals.

CONFLICT OF INTEREST

The authors declare that they have no competing interests in publishing this case.

CONSENTS

Written informed consent was obtained from the patient to publish the case with its related pictures. A copy of the written consent is available for review by the Chief Editor.

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