Case-based review

The first reported patient with non-Hodgkin lymphoma presenting as pityriasis rosea

Antonio Chuh

JC School of Public Health, The Chinese University of Hong Kong and the Prince of Wales Hospital, Shatin, Hong Kong

Address for correspondence:
Dr. Antonio Chuh
Shops 5 and 6, The Imperial Terrace
356 Queen's Road West, G/F
Hong Kong
Phone: 852-25590420 - Fax: 852-22394009
E-mail: antonio.chuh@yahoo.com.hk

Summary

Background. Owing to the spontaneous remission with no complication being the rule, pityriasis rosea (PR) has been termed Doctor’s Delight. Only two patients have been reported to have Hodgkin lymphoma and atypical PR concomitantly. There exists no report on the association of PR and non-Hodgkin lymphoma.

Case report. We present a 62-year-old male patient with fever and coryzal symptoms, followed by a herald patch at the right inferior quadrant of his anterior abdominal wall. One week later, generalised skin lesions erupted on his trunk and proximal aspects of his four limbs.

We saw him 12 days after onset of the primary patch. Examination revealed clinical features entirely compatible with classical PR. Systemic examination revealed enlarged and firm inguinal lymph nodes bilaterally. Spontaneous rash resolution occurred two weeks later. As the inguinal lymph nodes were still enlarging over time, we referred him to a physician.

Lymph node biopsy revealed non-Hodgkin lymphoma.

Discussion. This is the first reported patient with non-Hodgkin lymphoma presenting as classical PR. PR in the elderly, pregnant women, people with autoimmune diseases or tendencies, people after organ transplantation, and immunocompromised people might be at a higher risk of serious underlying diseases or severe complications, and are important exceptions for this Doctor’s Delight.

KEY WORDS: autoimmunity; Hodgkin disease; human herpesvirus 7; immunodeficiency; paraviral exanthema.

Background

The aetiology of pityriasis rosea (PR) is largely unknown (1-8). It might be related to primary infections and endogenous reactivations of human herpesviruses (2, 3). Autoimmunity (9, 10) and atopic tendencies (11-13) have been suspected to be predisposing factors. A role of immunocompromisation has also been postulated (14).

We report here a patient with classical PR preceding the diagnosis of non-Hodgkin lymphoma (NHL).

Case report

A male patient aged 62 endured fever, polyarthralgia, and coryzal symptoms for five days. A round and pruritic skin lesion then appeared over the right-lower quadrant of his anterior abdominal wall. Generalised skin lesions erupted on his trunk and limbs another week later. We saw him 12 days after onset of the herald patch.

The patient enjoyed good health in the past, and was a non-smoker and a non drinker. He declined history of sexual exposure other than with his wife over the ten years prior to this eruption. His appetite was normal, and he reported no weight changes over the two preceding months. Drug history including topical and herbal remedies was unremarkable.

Examination revealed that the patient was systemically well. We noted no pallor. The herald patch as indicated by the patient was a nummular and scaly lesion around 5 cm in diameter at the right inferior aspect of his anterior abdominal wall (Figure 1). Early lichenification was noted at the periphery, likely to be due to scratching. Central clearance was noted (Figure 2).

The secondary lesions were fairly large round to oval scaly plaques on the trunk, arms, and thighs. The distribution was symmetrical. The orientation of lesions was along the lines of skin creases (Figure 1). Peripheral collarette scaling was noted for the larger lesions. Palmoplantar surfaces and mucosal membranes were uninvolved.

Systemic examination revealed enlarged inguinal lymph nodes bilaterally. The nodes were firm and mobile. We noted no hepatomegaly and no splenomegaly.

We diagnosed classical PR. We prescribed topical emollients, and oral loratidine 10 mg as a single nocte dose for one week.

The patient attended follow-up two weeks later. The previous skin lesions were remitting, and there was no
Non-Hodgkin lymphoma presented as pityriasis rosea

Clinical Dermatology 2015; 3 (3): 86-90

87

new lesion. Bilateral inguinal lymph nodes were getting larger in size. We referred him to a physician. Lymph node biopsy findings were compatible with NHL. He was then treated by a haematologist, and defaulted follow-up by us. The staging was thus unknown to us. As at least two groups of lymph nodes were involved, but there was no significant weight loss, no persisting fever, and no night sweats; the stage was at least IIA.

Discussion

To our best knowledge, there exists only two reported patients with Hodgkin lymphoma and PR (15, 16). The rashes were atypical for both patients. Our patient is the first reported patient with NHL and PR. Most remarkably, the PR rash in our patient is classical, with prodromal symptoms, herald patch, peripheral collarette scaling configuration for many lesions, classical distribution on trunk and proximal aspects of limbs, and most lesions oriented along lines of skin cleavage.

It is entirely feasible that the NHL caused immunocompromisation, resulting in endogenous reactivation of the herpesviruses such as human herpesvirus-7 and -6 residing in the peripheral blood mononuclear cells, then leading to the paraviral exanthem.

Owing to the spontaneous remission with no complication being the rule, PR has been termed Doctor’s Delight (17). However, PR in several at-risk groups of patients might not delight doctors or patients.

Malignancies

As aforementioned, PR might be associated with underlying Hodgkin lymphoma, (15, 16) and this article depicted PR associated with NHL. Cutaneous malig-
A. Chuh

nancies such as cutaneous T-cell lymphoma (18), basal cell carcinoma (19), squamous cell carcinoma (19), mycosis fungoides (20), and haematological malignancies such as acute myeloid leukaemia (21) can present as rashes akin to PR. However, it must be emphasised that these rashes might not be compatible with diagnoses of typical and atypical PR. Treatments for malignancies might also lead to focal (22) or generalised (23, 24) PR-like eruptions. Chemotherapy for malignancies have also been reported to lead to classical PR (25).

The elderly

An important factor of our patient was the age of 62. PR has been reported for patients in all age groups, from infants (26) to the elderly (27). However, the vast majority of patients are between the ages of 10 and 35 years (27). PR at advanced ages might be coincidental. However, there lies a possibility that immunocompromisation caused by intrinsic or extrinsic factors paves the way for endogenous reactivation of latent herpesviruses, subsequently leading to PR. We should be more vigilant when diagnosing elderly patients with PR. However, the risk ratio of PR in the elderly having underlying medical diseases as compared to such in younger age groups is unknown. We therefore need further studies before we could deliver an evidence-based recommendation for investigations in elderly PR.

Pregnant women

PR in pregnancy is associated with less favourable outcomes. Drago et al. reported that out of 38 pregnant women with PR, 9 (24%) had premature deliveries, and 5 (13%) ended in miscarriage (28). Unfavourable outcomes were particularly associated with PR in the first 15 weeks of gestation. Drago et al. further collected skin lesions and plasma from 61 pregnant women with PR (29), 22 (36%) women had unfavourable outcomes with 6 (13%) having miscarriages. All miscarrying women had atypical or widespread PR rashes. PCR and serological investigations indicated that women with endogenous reactivation of HHV-6 could have a high rate of premature delivery or even foetal death. The underlying immunopathogenesis could be akin to our patient with NHL - altered immunological statuses facilitating endogenous reactivation of viruses. It is therefore definite that pregnant women represent a specific high-risk group in PR.

People with autoimmune tendencies

An autoimmune element in the pathogenesis of PR has been postulated since the 1970s (30). Autoimmunity could explain the efficacies of macrolides (31, 32) and systemic corticosteroids (33, 34) for treating some patients with PR. We have previously reported that patients with PR are significantly associated with positive antinuclear autoantibodies (two tailed \( P < 0.05 \)) (9). Qualitatively, we reported that PR was associated with positive rheumatoid factor, anti-Ro antibodies, thyroglobulin autoantibodies, thyroid peroxidase autoantibodies, and ribosomal P protein autoantibodies (9). Specific diseases for these patients with PR included autoimmune thyroiditis, chronic urticaria, and undifferentiated connective tissue disease (9). Özyürek et al. also reported that PR is significantly associated with positivity of rheumatoid factor (10). However, there exists no evidence to recommend that autoimmune antibodies should be investigated for all patients with PR.

Immunocompromised people

PR might occur more frequently for people with congenital or acquired immunodeficiencies. PR was reported to occur after organ transplantation (35-38). Some might be related to the pre-transplant conditionings, immunosuppression, medications and drug interactions, or to graft-versus-host reaction (38). However, some of these rashes only remotely resemble PR, and cannot fulfill the diagnostic criteria of PR (23, 24). PR has been reported to be associated with HIV infection and AIDS (39, 40). The highest occurrence is during seroconversion, possibly related to immunomodulation during this early phase of HIV infection, for which opportunistic infections are common. These completed our report on the first patient with NHL documented to present as classical PR. For elderly patients having PR, we might need to examine for signs of underlying malignancies or other serious diseases. Pregnant women having PR should be closely monitored. Other at-risk groups are patients with autoimmune diseases, positive autoimmune antibodies, and immunodeficiencies. For all these groups of patients, PR might not be a Doctors’ Delight indeed.

Acknowledgements

The Author declares that there exists no funding sources for this manuscript, that there are no conflict of interest, that this manuscript contains original unpublished work and is not being submitted for publication elsewhere at the same time, and that there are no other reports which are redundant or duplicate of the same or very similar work.

References

1. Chuh A, Zawar V, Sciallis G, Law M. Gianotti-Crosti syndrome, pityriasis rosea, asymmetrical periferal xanthem, unilateral mediasternal xanthem, eruptive pseudoangiomatosis, and papular-purpuric gloves and socks syndrome – succinct re-
Non-Hodgkin lymphoma presented as pityriasis rosea

37. Man J, Kalsiak M, Birchall IW, Salopek TG. Chronic cutaneous graft-versus-host disease manifesting as calcinosis cutis universalis on a background of widespread sclerodermatoid changes. J Cutan
