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Pityriasis rosea-like cutaneous eruption as the presenting symptom of Hodgkin lymphoma. Case report and review of the literature.

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Abstract

Background: Cutaneous involvement by Hodgkin lymphoma is extremely rare and usually follows extensive involvement of the lymph nodes. Cutaneous manifestations of Hodgkin lymphoma may be divided into specific and non-specific. Generalized pruritus is one of the most common non-specific presentations of Hodgkin lymphoma as is cutaneous granulomas. Such signs and symptoms should prompt thorough physical exam, including evaluation of lymph nodes, especially in a young patient.

Main observation: We report a case of a 22-year-old man who presented with night sweats, weight loss, dry cough, and generalized maculopapular eruption that started with a large patch in the center of the chest and spread to the extremities. Biopsy of the rash revealed pityriasis rosea-like findings. A computerized tomography scan of the chest revealed a mediastinal mass. Biopsy of the mediastinal mass revealed Reed-Sternberg cells in a fibrotic background, diagnostic of Hodgkin lymphoma, nodular sclerosis type.

Conclusion: In conclusion, the presentation of Hodgkin lymphoma as a pityriasis rosea-like cutaneous eruption is rare and clinicians should be aware of this presentation. In this paper we review the non-specific cutaneous manifestations of Hodgkin lymphoma in an effort to raise awareness of the diversity of early cutaneous signs of Hodgkin lymphoma. (*J Dermatol Case Rep*. 2015; 9(3): 81-84)

Introduction

Hodgkin lymphoma is a lymphoproliferative disorder characterized histologically by multinucleated Reed-Sternberg cells and mononuclear Hodgkin cells in a mixed inflammatory background composed of eosinophils, neutrophils, histiocytes, plasma cells and small lymphocytes. Classical Hodgkin lymphoma has a bimodal age distribution with a peak at 15-35 years of age and a second peak later in life. The most common anatomic site of involvement is cervical lymph nodes followed by the mediastinum and axillary regions.[1] Extranodal disease is rare. Cutaneous presentation of Hodgkin lymphoma is well recognized, but rare.

Cutaneous manifestations of Hodgkin lymphoma may be divided into specific and non-specific. Specific cutaneous manifestations occur late in the disease process and are generally associated with poor prognosis.[2] They represent Hodgkin lymphoma involving the skin. White and Patterson, in their analysis of 16 patients with histologically verified cutaneous involvement by Hodgkin lymphoma, proposed three possible mechanisms for cutaneous involvement: retrograde lymphatic spread, direct extension, and hematogenous dissemination.[3]

Non-specific cutaneous manifestations are a diverse group and have been described in the literature in case reports and at least one study.[2,5,6] Our case report represents a pityriasis rosea-like eruption ("atypical" pityriasis rosea) which may be a clue to the underlying disease process.

Case Report

A 22-year-old Brazilian man with no medical history was admitted to the hospital on January 7 with a history of rash, night sweats, weight loss and cough. He was not taking any medication at the time of presentation. Night sweats had

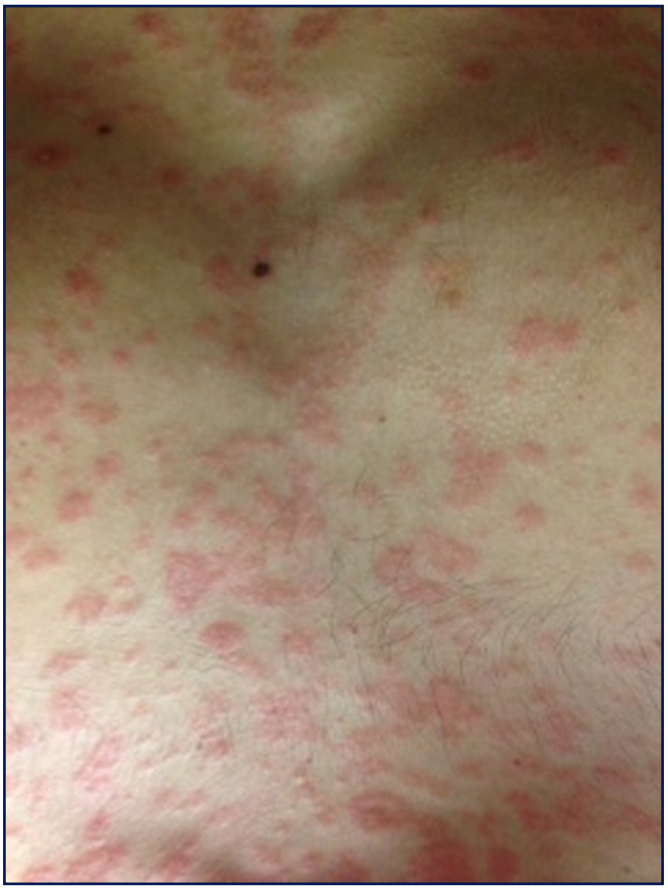

Figure 1
Pink papules and plaques with subtle scale.

begun about two weeks prior to admission. They were gradual in onset and were not alleviated or exacerbated by any factors. Cough was nonproductive and dry. The rash was pruritic and started with a large patch in the center of the chest, spreading subsequently to the extremities with sparing of palms and soles. The rash had been present for 3-4 days before his presentation to the hospital. It consisted of papules, macules and plaques some of which had superficial scaling and blanching, (Fig. 1). No oral or genital lesions were identified. Physical examination revealed a well-developed and well-nourished man with rash on the trunk and limbs, sparing the face, palms and soles. He did not experience any other respiratory symptoms except cough, or any gastrointestinal symptoms. His temperature in the emergency room was 97.7ºF. He was not given any medication for his rash.

Laboratory data showed an elevated white blood count (17,560/µL), low red cell count (4,210/µL), low hemoglobin (12.2 gm/dL) and low hematocrit of 37.1%. Rapid Plasma Reagin was negative.

Punch biopsies of the skin lesions revealed superficial perivascular and interstitial lymphocytic dermatitis with neutrophils, slight interface vacuolar changes, focal epidermotropism and mounds of parakeratosis, (Fig. 2). Those findings had features of pityriasis rosea, but some differences were also seen such as presence of neutrophils and subtle interface changes. The histologic differential diagnosis inc-

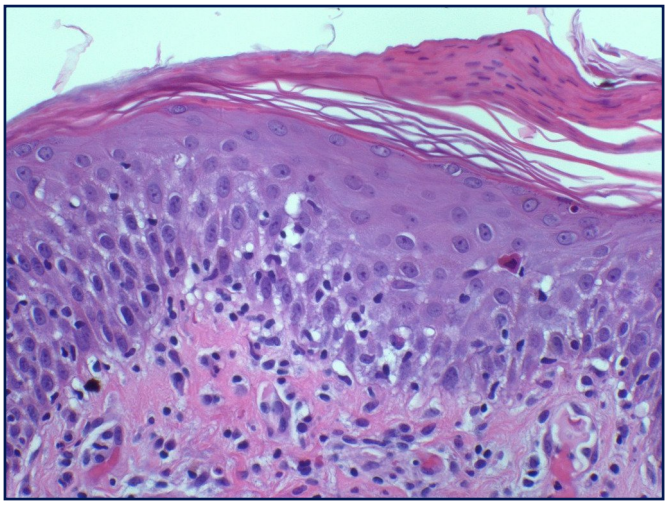

Figure 2
Pityriasis rosea-like findings and interface changes in the skin biopsy (H&E, original magnification 20x).

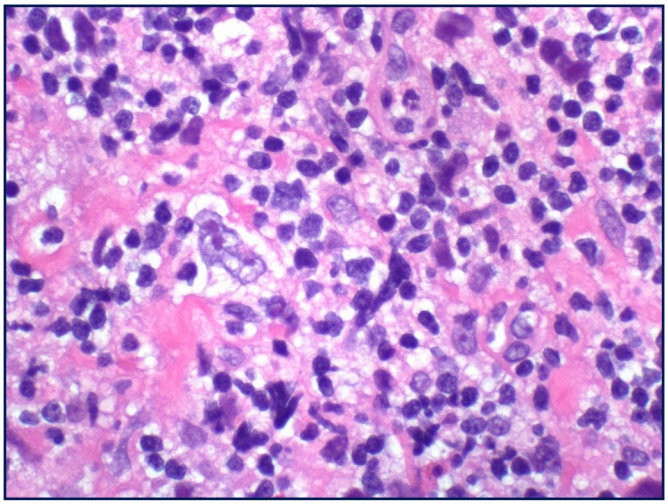

Figure 3
Large atypical multinucleated cell, mediastinal mass. (H&E, original magnification 40x).

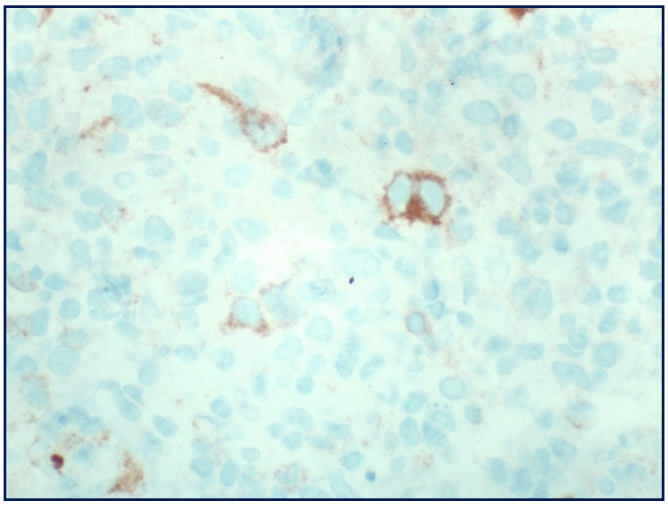

Figure 4
Immunohistochemical stain for CD 30 with perinuclear accentuation of the stain (original magnification 40x).

luded "atypical" pityriasis rosea. A CT scan done at that time revealed a mediastinal mass. Biopsy of the mediastinal mass revealed fibrotic areas with multiple large multinucleated cells, (Fig. 3) positive for CD30, (Fig. 4) supporting the diagnosis of Hodgkin lymphoma. After the diagnosis of Hodgkin lymphoma, the patient was started on ABVD (Adriamycin/bleomycin/vinblastine/dacarbazine) chemotherapy on January 18 for a total of six cycles with the completion of his treatment in June 25, followed by mediastinal radiation. On February 21, the patient was seen in the office and the rash had resolved after initiation of his chemotherapy.

Discussion

Pityriasis rosea is a self-limited eruption of skin-colored papules on the trunk, neck and proximal extremities. Mucous membranes are rarely involved. The lesions follow the skin lines in what is described as a "Christmas tree" pattern. The eruption may be preceded by a scaly plaque on the trunk, the so-called "herald patch". The incidence of herald patch varies from 40-76% in various studies.[9] Pityriasis rosea has been reported in all ages, but occurs predominantly between 15 and 35 years.[10] The cause is unknown, although a viral etiology is suspected, especially human herpesvirus-6 and 7 (HHV-6, HHV-7), as most affected patients will not relapse in their lifetime which suggests immunity against the virus.[9]

The possibility that our patient had coexisting pityriasis rosea and Hodgkin lymphoma is unlikely, due to the presence of cutaneous macules and plaques, the fact that the patient's rash did not follow the skin lines as pityriasis rosea does, the presence microscopically of neutrophils and interface changes in the skin biopsy, neither of which is a feature of pityriasis rosea, and the resolution of the eruption with treatment for Hodgkin lymphoma.

Skin involvement by Hodgkin lymphoma is a rare occurrence. In a study by Smith and Butler, only 9 of 1810 patients had histological skin involvement,[11] an incidence rate of 0.5%. The skin lesions take the form of papules, plaques, nodules or ulcers.[12] Nodules and ulcers may be seen in the later stage of the disease when there is skin involvement. It is still uncertain whether primary Hodgkin lymphoma is a separate entity or represents direct extension or hematogenous spread of the tumor.

Non-specific cutaneous manifestations of Hodgkin lymphoma are reported to occur in 15 to 50 percent of cases.[12] In a study by Rubenstein and Duvic (MD Anderson), 47 patients out of 1049 developed cutaneous manifestations.[4] However, only three patients out of 47 had cutaneous Hodgkin lymphoma. The most common non-specific cutaneous manifestation was eczema (18 out of 47 cases), followed by pruritus /prurigo nodularis (17 out of 47 cases), mycosis fungoides (11 out of 47 cases) and erythema nodosum (3 out of 47 cases). Additional non-specific cutaneous manifestations that have been described include pigmentation, and dryness as well as fine scaling of the skin.[13] Furthermore, there are multiple case reports of unusual cutaneous manifestations of Hodgkin lymphoma such as lymphohistiocytic infiltrates, pyoderma gangrenosum and atypical pityriasis rosea among others. Those case reports describing rare non-specific cutaneous manifestations of Hodgkin lymphoma are summarized in Table 1.

Our patient presented with atypical pityriasis rosea as a cutaneous manifestation of Hodgkin lymphoma. This is a rare presentation of Hodgkin lymphoma of which clinicians should be aware, and which should prompt a search for underlying malignancy.

Table 1. Case reports of non-specific cutaneous manifestations of Hodgkin lymphoma.

Case number	Age, gender	Cutaneous manifestation	Systemic disease
1	64M	Rash with cutaneous lymphohistiocytic infiltrate with granulomatous pattern[5]	Hepatosplenomegaly and small retroperitoneal lymphadenopathy
2	37M	Pityriasis rosea-like eruption[6]	Systemic symptoms and lymphadenopathy
3	16M	Treatment-refractory eczema for two years[2]	Diffuse lymphadenopathy
4	57M	Pyoderma gangrenosum and polyarthritis[7]	Supraclavicular adenopathy
5	13F	Prurigo nodularis and pruritus[8]	Mediastinal lymphadenopathy
6	22M	"Atypical" pityriasis rosea [current case]	Mediastinal lymphadenopathy

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