

A case of primary cutaneous marginal zone lymphoma presenting with rosacea-like eruption



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INTRODUCTION

Primary cutaneous marginal zone lymphoma (PCMZL) is a subset of extranodal marginal zone lymphomas of mucosa-associated lymphoid tissue and typically affects patients during their sixth decade of life.^{1,2} Clinical presentation is variable, with respect to lesion morphology, grouping, and area of involvement.³ The variable clinical presentation of PCMZL can lead to delays in diagnosis and, in exceedingly rare cases, may mimic more common skin conditions.⁴ PCMZL has been noted to follow a recalcitrant course in prior case series and is treated through a variety of modalities, such as rituximab, radiotherapy, and surgical intervention.^{3,4} Here we present a case of PCMZL mimicking rosacea with recurrent disease following medical therapy and radiotherapy.

CASE REPORT

A 37-year old Hispanic woman presented to Bellevue Dermatology Clinic in September 2013 with pruritic, monomorphic erythematous papules on the forehead, nose, and malar cheeks. The patient had no significant medical or surgical history and denied family history of malignancy. She was previously biopsied at an outside hospital and received a diagnosis of cutaneous reactive lymphoid hyperplasia. The patient was treated for approximately 2 years with intralesional corticosteroids followed by subsequent treatment with antimalarials. Her pruritus resolved and eruption waxed and waned, but new lesions continued to form. A repeat biopsy was

Abbreviation used:

PCMZL: primary cutaneous marginal zone lymphoma

conducted at the Bellevue Dermatology Clinic in March 2016, which yielded evidence of primary cutaneous marginal zone B-cell lymphoma. Computed tomography/positron emission tomography imaging in June 2016 did not find systemic involvement. The oncology department was consulted, and she was referred for radiation therapy. Flow cytometry was negative and serum protein electrophoresis with immunofixation found a normal pattern with no monoclonal spikes. She had no laboratory abnormalities. She achieved remission after completing 12 rounds of 2400 cGy radiation in October 2016.

After almost 2 years of remission, the patient had new, 1- to 2-mm-sized monomorphic erythematous papules on her cheeks, forehead, and bridge of the nose. The papules were set against a background of erythema and telangiectasias. Rosacea was the diagnosis based on this clinical presentation, and she was treated with a 1-time dose of oral ivermectin and then placed on doxycycline, 50 mg/d, metronidazole, 0.75% cream twice daily, and ivermectin, 1% cream twice daily. Despite extensive rosacea-specific treatment, she did not exhibit any improvement.

In September 2019, a punch biopsy of a papule over the right eyebrow was performed (Fig 1).

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Fig 1. A, Erythematous monomorphic papules before rituximab treatment (2019). **B,** Symptomatic papule regression following intravenous rituximab treatment (2019).

Histologic examination found a dense dermal infiltrate of CD20⁺ lymphocytes with admixed monocytoid B cells, lymphoplasmacytoid cells, and plasma cells (Fig 2, A and B). There was reactivity for CD20 and CD79a with aberrant co-expression of Bcl-2 but lack of reactivity for Bcl-6. Lambda light chain restriction of the plasma cell infiltrate was also noted. The diagnosis was consistent with low-grade PCMZL. The patient denied any fevers, night sweats, or weight loss. Examination did not find lymphadenopathy or hepatosplenomegaly, and repeat lactate dehydrogenase was within normal limits. Based on lack of systemic symptoms, negative initial staging in 2016, recent evidence suggesting a very low incidence of subsequent systemic spread of PCMZL after initial negative staging, and a joint management conference with the radiation oncology and hematology/oncology departments, repeat imaging was not recommended.⁵ The patient was not a candidate for radiation given recurrence within same radiation field. The oncology department subsequently prescribed 4 weekly rituximab infusions at lymphoma dosing (375 mg/m²) in December 2019. After her first rituximab infusion and topical fluocinonide 0.05% cream, her lesions began to resolve (Fig 1, B). She remained clear and symptom free at her follow-up visit in April 2020 4 months later.

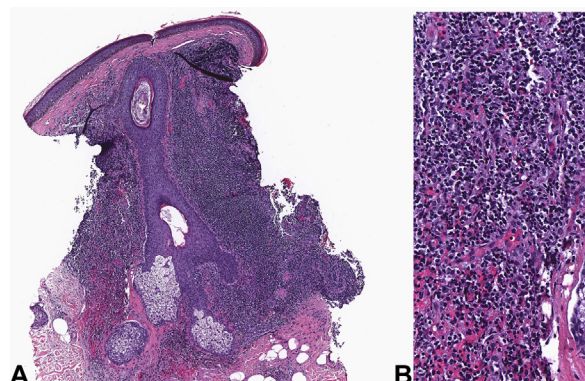


Fig 2. A, Dense infiltrate of small lymphocytes within the dermis. **B,** Numerous lymphoplasmacytoid cells, monocytoid cells, and plasma cells. (A and B, Hematoxylin-eosin stain; original magnifications: A, ×40; B, ×400.)

DISCUSSION

Primary cutaneous B-cell lymphoma generally follows an indolent course and is less common than its T-cell counterpart, comprising 20% to 30% of cutaneous lymphoma cases.⁶ Although marginal zone B-cell lymphoma possesses histologic and symptomatic similarities to other cutaneous B-cell lymphoma subtypes, it has a substantially different clinical course, prognosis, and treatment paradigm.

To our knowledge, there has been 1 case detailing the potentially similar presentation of rosacea with broader cutaneous B-cell lymphoma, although that case had distinctive granulomatous and rhinophymatous changes.⁴ Our 37-year-old patient is younger than typically described with cutaneous B-cell neoplasms, which enhanced the plausibility of a diagnosis of rosacea.⁴ This case details a PCMZL patient with concomitant rosacea-like symptoms and multifocal, recurrent disease occurring within a previous radiation field. This case's unusual histopathologic profile, refractory treatment course, and diagnostic process highlight the subtle and often misleading clinical presentation of PCMZL.

According to current National Comprehensive Cancer Network guidelines, treatment of PCMZL is subdivided based on staging and spread of the disease.⁷ First-line therapy includes local radiotherapy and/or excision for solitary lesions (T1) or skin involvement with multiple lesions limited to 2 contiguous body regions (T2).⁷ When radiotherapy or surgical treatment is contraindicated, observation, skin-directed topical therapies (ie, corticosteroids, imiquimod), or intralesional steroids may be used.⁷ Cases of generalized skin involvement (T3) are managed likewise to T1 to 2 cases, with the possible addition of rituximab or systemic chemotherapy.⁷ Relapsed or progressive disease is treated based on the extent of progression or disease change from the prior stage.

Recent literature has shown that although radiotherapy is indicated as a first-line treatment, relapse rates of PCMZL in patients treated with radiotherapy are particularly high (~60%) relative to other treatment modalities.⁸ Furthermore, studies found that relapses after radiotherapy typically occur outside of previously treated radiation fields.⁹ Interestingly, prior observational studies found that patients with lesions characterized by monotypic plasma cells, with IgG- λ -positive predominance over IgG- κ , can be refractory to local radiotherapy, as in our case.⁹

This case demonstrates potential challenges with PCMZL diagnosis and management. Our patient's age, unique clinical presentation, and recurrent nature complicated the diagnosis. Additionally, given

the PCMZL recurrence in the same radiation field, radiation therapy was contraindicated, warranting examination of rituximab, chlorambucil, and other therapies for her treatment that prior studies have supported.¹⁰ The similar histologic profile (λ light chain stain predominance over κ light chain) to prior cases may prompt further examination of methods to histologically and genotypically risk stratify patients for likelihood of recurrence and response rate to preferred first-line therapies like radiotherapy.⁴ Clinicians should expand their differential diagnosis to include PCMZL when evaluating young patients with potentially recalcitrant rosacea.

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