CD10 and BCL-2 Positive Primary Cutaneous Follicle Center Lymphoma of the Thigh in a 62-year-old Female Patient

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Primary cutaneous B cell lymphoma, a rare subgroup accounting for 25% of all cutaneous lymphomas, originates in the skin without evidence of extracutaneous disease. Three main subtypes include: large B cell-leg type, follicle center (PCFCL), and marginal zone.

Figure 1: Classification of primary cutaneous lymphomas

- Primary cutaneous diffuse large B cell lymphoma, leg type (PCDLBCL, LT)
- Primary cutaneous follicle center lymphoma (PCFCL)
- Primary cutaneous marginal zone lymphoma (PCMZL)
- Primary cutaneous T-cell lymphoma (CTCL)
- Other (including EBV-positive mucocutaneous ulcer)

CTCL - 75%

PCFCL, the most common subtype, often presents with solitary or multiple firm erythematous tumors, papules, or plaques that favor the head, neck, and trunk; only about 5% of patients have leg lesions. Diagnosis is made with a skin biopsy and evaluation for morphology, growth pattern, and immunohistochemical studies.

Introduction

Initial Presentation

We present a case of a 62-year-old female patient with a left subcutaneous thigh mass, which had progressively increased in size over 6 months. The lesion initially presented as flush-colored, firm and non-tender, and progressed to dark purple at the center, irritated and warm to touch.

Review of systems: Non-contributory. Patient denied any fever, chills, weight loss, or night sweats.

Physical Exam: No lymphadenopathy.

Clinical Work-Up

Patient underwent ultrasound of left lower extremity, which showed irregularly shaped hypoechoic subcutaneous mass with hypervascularity measuring 3.8 cm x 2.2 cm x 3.6 cm, concerning for soft tissue malignancy.

MRI with contrast evaluation showed nonspecific irregular enhancing mass localized within the superficial fat. Soft tissue sampling was recommended and punch biopsy sample was sent to pathology.

Immunohistochemistry reported CD-10 positive B-cell non-Hodgkin lymphoma of follicle center origin with strong expression of CD10 and BCL-2.

Excisional biopsy of malignant subcutaneous mass was completed without complications. No PET evidence of other hypermetabolic lesion or node was seen to suggest additional lymphoma or systemic involvement.

Histopathology

PCFCL stains positively for B-cell markers CD19, CD20, and the follicle center markers CD10 (positive in <25% of cases) and BCL-6. Most cases do not express BCL-2.

CD20           BCL-6

BCL-2           CD10

Coexpression of BCL-2 and CD10 should prompt exclusion of primary nodal follicular lymphoma with secondary skin involvement.

Discussion

PCFCL, although rare, has an excellent prognosis; however, proper work-up is important to differentiate from more aggressive forms. This is a case of a PCFCL of unusual location, rare immunophenotypic co-expression of CD10 and BCL-2, without systemic involvement. However, the BCL-2 positivity and its associated poorer prognosis warrants close follow-up for evidence of recurrence or systemic spread.

References

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