Comment on: Primary Cutaneous Lymphomas in Children and Adolescents Primary cutaneous follicle center lymphoma of the medial canthus of the eye in an eleven year old

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Primary cutaneous follicle center lymphoma of the medial canthus of the eye in an eleven year old

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Abbreviations

PCFCL: primary cutaneous follicle center lymphoma, HHV8: human herpes virus 8

To the Editor:

We present the fifth case of primary cutaneous follicle center lymphoma (PCFCL) documented in a patient under age twenty-one. PCFCL is a low-grade lymphoma of the follicle center B cells limited to skin without systemic or nodal involvement at diagnosis.[1,2]Patients typically present with localized, non-ulcerated, erythematous lesions on the scalp, forehead, or trunk.[1,3,4] PCFCL presenting on the lower extremity carries a poorer prognosis.[1,4] The etiology remains unknown. Antecedent*Borrelia burgdorferi* , hepatitis C, and human herpes virus 8 (HHV8) infections have been proposed.[2,4]

Neoplastic lymphocytes in PCFCL are composed of centrocytes and centroblasts derived from germinal center B cells.[3]These cells express B-cell and follicle center markers, usually BCL6 and/or CD10.[3,4] BCL2 expression is variable, though usually absent.[1,3] Ki-67 proliferation index may be low.[1] Reactive T lymphocytes are often seen.[1,2,4] PCFCL is not usually associated with BCL2 t(14;18.)[1,2,3,4]

In adults, five-year progression free survival exceeds 95%.[2] Locally aggressive disease has been described in untreated patients.[1] Treatment for adult patients includes surgical resection and/or radiation therapy.[2]Rituximab has been used for extensive lesions.[2,4]Transformation to diffuse large B-cell lymphoma is uncommon.[1] Recurrences, mostly extracutaneous, occur in 20-30% of patients.[1,2,4] The specific prognosis of pediatric PCFCL is unknown due to its rarity.[3]

The affected individual is an eleven-year-old male who presented with a twelve-month history of an enlarging mass arising from the plica semilunaris and caruncle in the medial canthus of his right eye (five mm maximal diameter.) It was associated with keratoconjunctivitis sicca and incomplete eyelid closure. The lesion was pink with central erythema. An ophthalmologist excised the lesion with topical anesthetic without complication. Pathology demonstrated PCFCL. Resection margin was negative (Figure 1.) Chest x-ray, bone marrow aspirate/biopsy, MRI brain/orbits, lumbar puncture with CSF analysis, and whole body f-fluorodeoxyglucose (FDG) positron emission tomography were negative for distant disease. Serologies for *B burgdoferi* and hepatitis C were negative. Imaging identified anatomic variants: fused C2-C3 vertebral bodies and posterior elements, right-sided aortic arch, horseshoe kidney, bifid ribs, and thoracic hemivertebrae with levoconvex curve. This patient was reviewed by a medical geneticist. There was no clinical evidence of hereditary cancer syndrome. The family declined whole exome sequencing.

Institutional multidisciplinary case conference recommended adjuvant radiation therapy or observation. We elected for observation. The patient remains disease-free at two years, with clinical exams by a pediatric oncologist and ophthalmologist (every six months) and pediatric dermatologist (annually.) This represents the fifth documented case of pediatric PCFCL. Clinical features are consistent with the four prior published cases.[3,5,6,7,8] Those cases had variable treatments, including surgery, with or without chemotherapy or radiation therapy, and follow-up ranging from 13 to 48 months.[5,6,7,8] Ceppi *et al* advocate for complete surgical resection of single lesions followed by observation due to late effects of radiation.[3] This patient's outcome supports this conservative approach in a pediatric setting.

Figure 1: Polypoid fragment lined with non-keratinized squamous epithelium with an atypical lymphoid infiltrate with nodular pattern (Figure 1A, HE 2x.) The atypical lymphoid cells are variable in size with small to medium centrocyte-like cells admixed with scattered larger centroblast-like cells. Single cell necrosis and mitotic figures are noted (Figure 1B, HE 40x.) The atypical cells are B-cells that express strong CD20, CD10 and BCL6 as well as uniform BCL2. Fewer CD3+ T cells are noted surrounding the nodular areas. The CD21 staining highlights expanded and disrupted follicular dendritic cell meshwork consistent with atypical follicles. The proliferation index of the B-cells (Ki-67) is moderate, approximately 60%. DNA PCR analysis using BIOMED2 immunoglobulin heavy chain gene consensus primers confirmed the presence of a

clonal B cell population (Figure 1C.) FISH analysis using Vysis break-apart probes for the rearrangements of *BCL2* and *BCL6* was negative.

CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

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ETHICS STATEMENT

The patient and his parents have consented to publication of this clinical case.

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