Unusual Presentation of Hairy Cell Leukemia without Splenomegaly
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BACKGROUND
We present the case of a 65 year old Hispanic man who presented to the emergency department with progressively worsening fatigue for a year, 50 pound weight loss in 3 months and shortness of breath on walking. A complete blood count revealed pancytopenia (WBC of 1.3 K/cmm, hemoglobin of 7.3 g/dl, and platelet count of 45 K/cmm). Clinically it was concerning for bone marrow involvement by an infiltrative process, aplasia, fibrosis, MDS or infectious etiology. The absence of splenomegaly and normal hepatic function ruled out peripheral destruction as a cause for pancytopenia.

MATERIAL and METHODS
Bone marrow aspirate and biopsy were performed. Bone marrow aspirate was sent for flowcytometry, cytogenetic analysis and BRAF mutation analysis. TRAP stain was performed on bone marrow aspirate. AFB and GMS stains were performed on bone biopsy. Immunohistochemical stains for CD3, CD5, CD10, CD20, CD43, CD123, BCL2, BCL6, TdT, Cyclin D1, DBA 44 and Annexin A1 were performed on biopsy.

RESULTS
Flowcytometry revealed monoclonal small B cell population positive for CD19, CD20(bright), CD25 (dim), CD103 (dim) and surface lambda restricted (dim). Bone marrow aspirate was aparticulate. Touch preparation showed many small lymphoid cells with indented nuclei, few with hairy cytoplasmic projections (Fig.1 Inset). These cells showed TRAP positivity. The bone marrow core biopsy showed 70% cellularity with interstitial infiltrate by small B cells with fried egg morphology (Fig. 1) and they are positive for CD20, bcl2, DBA 44 and Cyclin D1 (majority tumor cells). Annexin A1 and CD123 were unsatisfactory. Molecular studies showed BRAF mutation. Despite lacking splenomegaly, overall findings were consistent with Hairy Cell Leukemia.

DISCUSSION
Rarely hairy cell leukemia presents with unusual features lacking the classic features putting the pathologist in a diagnostic dilemma. In our case there was absence of splenomegaly, dim expression of CD103 and surface lambda light chain by flow cytometry. Given the sensitivity of HCL to purine analogues it is important to make a correct and early diagnosis.

REFERENCES