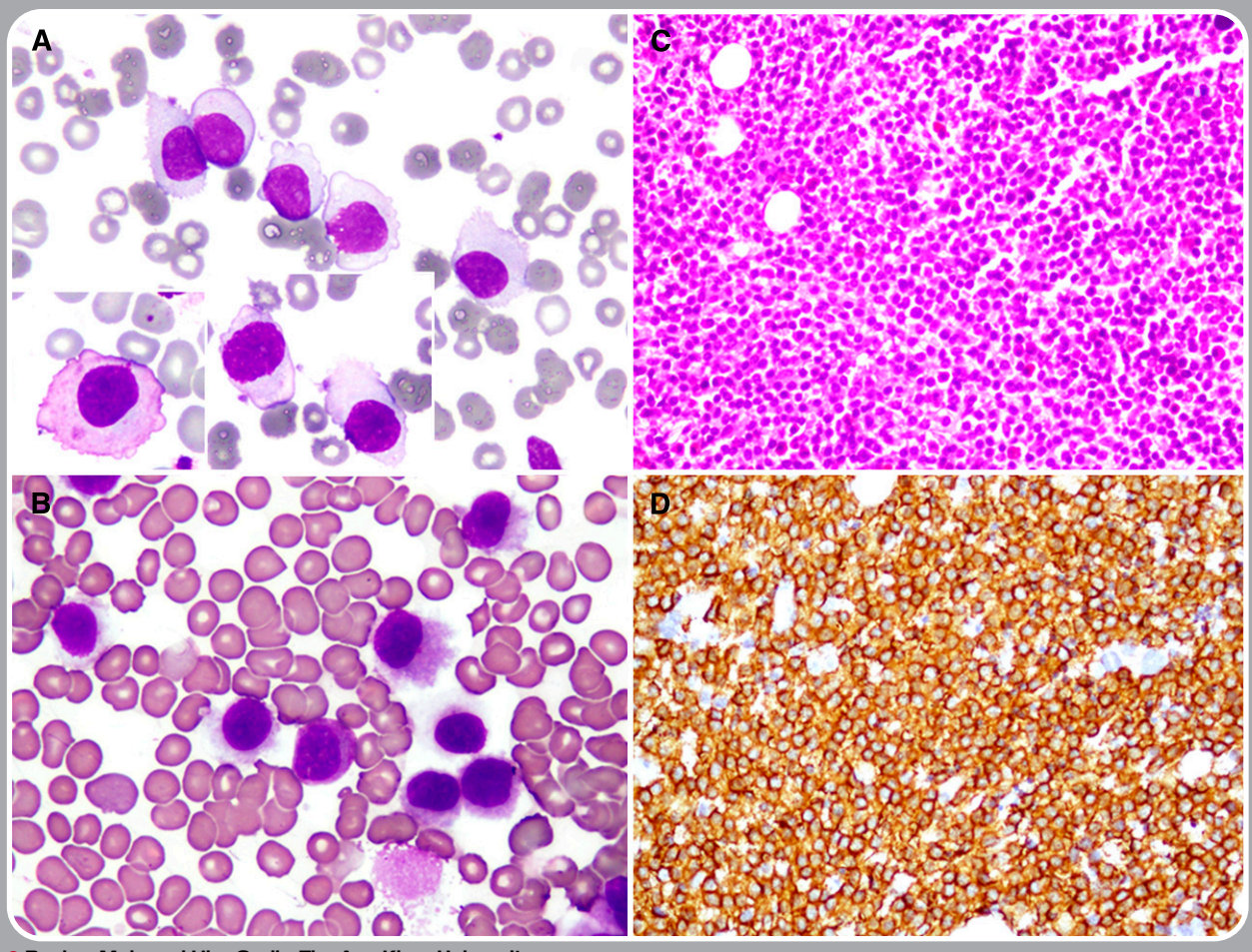
bloodwork
IMAGES IN HEMATOLOGY

"Hairless" hairy cells



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A 49-year-old man presented with a history of weakness lasting one year. Physical findings included pallor and a 12-cm palpable spleen. Complete blood counts reported hemoglobin 8.0 g/L, hematocrit 26.6, mean corpuscular volume 92 fL, mean corpuscular hemoglobin 27.8 pg, white blood cells 11×10^9/L, absolute lymphocyte count 7.7×10^9/L, and platelets 59×10^9/L. Peripheral blood film displayed normochromic normocytic red cells, low platelets, and numerous atypical lymphocytes having tadpolelike shapes, abundant agranular cytoplasm with blebs, round nuclei, and indistinct nucleoli (panel A). Bone marrow aspirate was dilute, showing similar lymphocytes (panel B). Bone marrow biopsy showed a completely effaced architecture with monotonous infiltrate of spaced out lymphoid cells (panel C), strongly expressing CD20 (panel D) but negative for CD 138. Flow cytometric immunophenotyping showed bright reactivity to CD19, CD20, CD22, cCD79a, HLA-DR, CD45, CD11c, CD25, and CD103 with IgM-, κ-, and λ- light-chain restriction, confirming a diagnosis of hairy cell leukemia (HCL).

HCL is a rare, indolent B-cell neoplasm with lymphoid cells having characteristic hairy projections. However, nonclassic hairy cells are not uncommon. The cells illustrated in panel A are confusing and could reflect HCL, splenic marginal zone lymphoma, atypical chronic lymphocytic leukemia, prolymphocytic leukemia, or plasma cell leukemia.