“Soccer-Ball” Lymphocytosis

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An 87-year-old man with a history of paroxysmal atrial fibrillation, hypertension, and chronic kidney disease presented to the emergency department with confusion, weakness, and shortness of breath with nonproductive cough. Laboratory studies revealed a white blood cell count of $41,300 \times 10^9/L$, an absolute lymphocyte count of $23,500 \times 10^9/L$, a hemoglobin level of 9.8 g/dL, a platelet count of $280,000 \times 10^9/L$, and a creatinine level of 1.16 mg/dL. On physical examination, the patient had no hepatosplenomegaly, lymphadenopathy, bruising, or bleeding. An evaluation for infection or autoimmune conditions was unrevealing. A peripheral blood smear revealed smudge cells (**image A**) and small round lymphocytes with coarsely clumped chromatin (**image B**) characteristic of chronic lymphocytic leukemia (CLL; Wright-Giemsa stain).

Chronic lymphocytic leukemia typically presents with an increased number of small mature

lymphocytes and smudge cells.¹ Some refer to these cells as “soccer-ball” lymphocytes because the nucleus is very mature, dark, and can have a “cracked” appearance.² Flow cytometry analysis detected κ monotypic B-cells with a non-CLL immunophenotype clone (positive CD19, dim CD20, negative CD5 and CD23 expression). Monoclonal B lymphocytosis, a precursor form of CLL, was diagnosed. Marginal zone and lymphoplasmacytic lymphoma were also considered. Bone marrow biopsy was planned, but the patient left the hospital before his procedure and was lost to follow-up. (doi:10.7556/jaoa.2020.046)

References

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