An Errant Sheep in Wolf’s Clothing
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KEYWORDS: CMV, mononucleosis, atypical lymphocytes, lymphoproliferative disorder

A 27-year-old healthy male had routine bloodwork done for his PCP. CBC (normal in 2017) was remarkable for a WBC of 11,900 k/cmm with 38% lymphocytes, 44% atypical lymphocytes. Smear review by pathology noted “intermediate to large lymphoid cells, with irregular nuclei, variably dispersed chromatin, nucleoli, scant to abundant basophilic cytoplasm with occasional vacuoles, suspicious for a lymphoproliferative disorder (LPD); an occasional myelocyte, a few tears cells, and rare nucleated RBCs suggestive of bone marrow involvement.” AST/ALT were elevated at 147/383 U/L, LDH 257 U/L. Hematology was consulted and smear was notable for rare tear cells, no nucleated RBCs, no organisms, increased monocytes and atypical lymphocytes with more open cytoplasm, Döhle bodies, and vacuoles, without early cells, all suggestive of a viral illness. (Figure 1) The patient noted fever, chills, headache, and diarrhea for 10 days prior to his CBC. Patient denies recent consumption of shellfish/seafood, sick contacts, and had three negative COVID tests. The patient did not present for a physical exam due to concerns over COVID.

Though a follow-up CBC was suggested with peripheral flow cytometry if persistently abnormal, a flow was done and negative for any LPDs. Viral studies (EBV, toxoplasmosis, hepatitis) were negative, but the CMV IgG was >10 U/mL. The patient improved and one month after the onset of his illness, his lab work normalized.

The number of atypical lymphocytes on the original smear was higher than anticipated for a viral etiology (normally >10%); interestingly this may persist for many months (2–11 months) after the symptoms resolve. CMV only accounts for 5–7% of mononucleosis syndromes. After hematology and clinical review, a potentially devastating LPD turned out to be an uncommon, but well-described viral syndrome.

Figure 1. (A–C) atypical lymphocytes with intermediate to large lymphoid cells, irregular nuclei, cloverleaf nuclei (Panel A), variably dispersed chromatin, nucleoli, scant to abundant basophilic cytoplasm with occasional vacuoles (x100 objective, total magnification x 1000); (D) myelocyte with atypical lymphocyte (x100 objective, total magnification x 1000); (E) neutrophils with Döhle bodies (x100 objective, total magnification x 1000); (F) smudge cell and neutrophil with Pelger-Huet anomaly (x100 objective, total magnification x 1000).
References

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