A 43-year-old man presented with fever, fatigue, and shortness of breath. Physical examination revealed bilateral axillary lymphadenopathy. Complete blood count showed hemoglobin of 9.8 g/dL, a white cell count of $4.4 \times 10^9$/L, and a platelet count of $195 \times 10^9$/L. Blood smear showed increased red blood cell agglutination, polychromasia with nucleated red cells, and atypical lymphocytosis (panel A). Hemolysis was evident, with raised serum bilirubin (2.3 mg/dL), low serum haptoglobin (4 mg/dL), high serum lactate dehydrogenase, direct Coombs test positive, and cold agglutinins (1:256). Serology studies for hepatitis B or hepatitis C were negative. Laboratory work-up detected hypergammaglobulinemia (3.9 g/dL) with increased serum immunoglobulin G (IgG) (2408 mg/dL), IgM (599 mg/dL), and IgE (175 mg/dL) with an IgG κ monoclonal paraprotein. A bone marrow biopsy revealed dense nodular atypical lymphoid infiltrates, plasmacytosis, and megakaryocytic hyperplasia (panel B). Biopsy of the axillary lymph nodes showed diffuse large B-cell lymphoma. Subsequently, the patient was discovered to be positive for HIV type 1, with a viral load of 485,315 copies per microliter, and a CD4 cell count of 215 per microliter.

All patients with unexplained cold agglutination and hypergammaglobulinemia associated with lymphoma should undergo screening for HIV infection; peripheral blood analysis may be useful in the diagnosis of marrow involvement by lymphoma.
Atypical lymphocytosis, cold agglutinin hemolytic anemia, and monoclonal gammopathy in an HIV patient with marrow involvement by diffuse large B-cell lymphoma

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