



Thymus and activation-regulated chemokine elevation and lymphocytosis in a case of diffuse large B-cell lymphoma

Dear Editor,

Most reported lymphomas, with eosinophilia, are T-cell lymphomas; corresponding B-cell lymphomas are rare. Here, we report a case of de novo CD5-positive diffuse large B-cell lymphoma (DLBCL) with eosinophilia.

A 74-year-old woman presented with a 6 month history of pruritus at our outpatient department. She had hypertension and diabetes mellitus, but no fever, drenching sweats, or weight loss. Physical examination revealed swelling in the right inguinal lymph nodes, as well as swelling and erythema in the right leg (Figure 1A). No other organomegaly or masses were palpable.

Laboratory findings were as follows: (white cell count, 29 910/mm³; monocytes, 6%; basophils, 0%; atypical lymphocytes (a-ly), 0%; blasts, 0%; neutrophils, 17%; 5080/mm³), with eosinophilia (21%, 6281/mm³), and increased lymphocyte (56%, 16 750/mm³), lactate dehydrogenase (LDH, 1001 U/L, normal range: 119-229 U/L), and C-reactive protein (CRP, 2.156 mg/dL) levels. The immunoglobulin (Ig) A and M levels were normal, the IgG levels slightly decreased (586 mg/dL), and total IgE levels were 8 IU/mL. However, the levels of the thymus and activation-regulated chemokine (TARC) were over 30 000 pg/mL (normal <450 pg/mL); of serum thymidine kinase (TK), 83.5 U/L (normal 0-7.5 U/L); and of the soluble interleukin-2 receptor (sIL-2R), 7280 U/mL (normal 124-466 U/mL). A computed tomography scan showed right inguinal lymphadenopathy (Figure 1B).

A biopsy specimen from the right leg showed diffuse proliferation of large cells resembling immunoblasts or centroblasts (Figure 1C). Immunohistochemical staining were as follows: tumor cells were positive for CD20, CD79a, BCL2, BCL6, CD5; negative for S100, TdT, cyclinD1, CD1a, CD10, CD23; 80%-90% of tumor cells positive for MIB-1; partly positive for MUM1; were negative but normal T lymphocytes were positive for CD3 (Figure 1D). In situ hybridization; EBER-ISH was negative. The translocation of 46, XX, t(3; 8)(p25; q22) was observed in the bone marrow. The chromosomal abnormalities and flowcytometric analysis of bone marrow (Figure 1E) revealed bone marrow infiltration, as this chromosomal abnormality was present only in the bone marrow, and not in the lymph nodes.

Consequently, a diagnosis of de novo CD5-positive diffuse large B-cell lymphoma (CS IVADM, IPI High) was established. After 2 rounds of R-CHOP (rituximab, cyclophosphamide, doxorubicin,

vincristine, and prednisone), laboratory tests showed the decreased inflammatory or tumor-resistant lymphocyte fractions (white cell count, 13 280/mm³; monocytes 9%; basophils, 0%, a-ly, 0%, blast, 0%; neutrophils, 51%; 6770/mm³, eosinophils, 5%; lymphocytes, 9%, 1200/mm³; LDH, 547 U/L; CRP 0.067 mg/dL; sIL-2R 1660 U/mL.)

Isaacson and Rapoport¹ reported that 0.5% of 1683 cases of malignancies exhibited eosinophilia. In published literature, the frequency of hematological malignancies preceded by hypereosinophilia is about 5.1%, and the most common diseases are acute leukemia and chronic lymphocytic leukemia.² CD5 is expressed in a small proportion of large B-cell lymphomas.³ TARC is a Th2-type chemokine that is implicated in the pathogenesis of allergic disorders.⁴ In classical Hodgkin lymphoma, TARC accurately reflects the disease activity and correlates with response to clinical treatment.⁵ Therefore, TARC may be a good predictor of malignant lymphoma with eosinophilia when combined with the LDH, CRP, TK, and sIL-2R findings.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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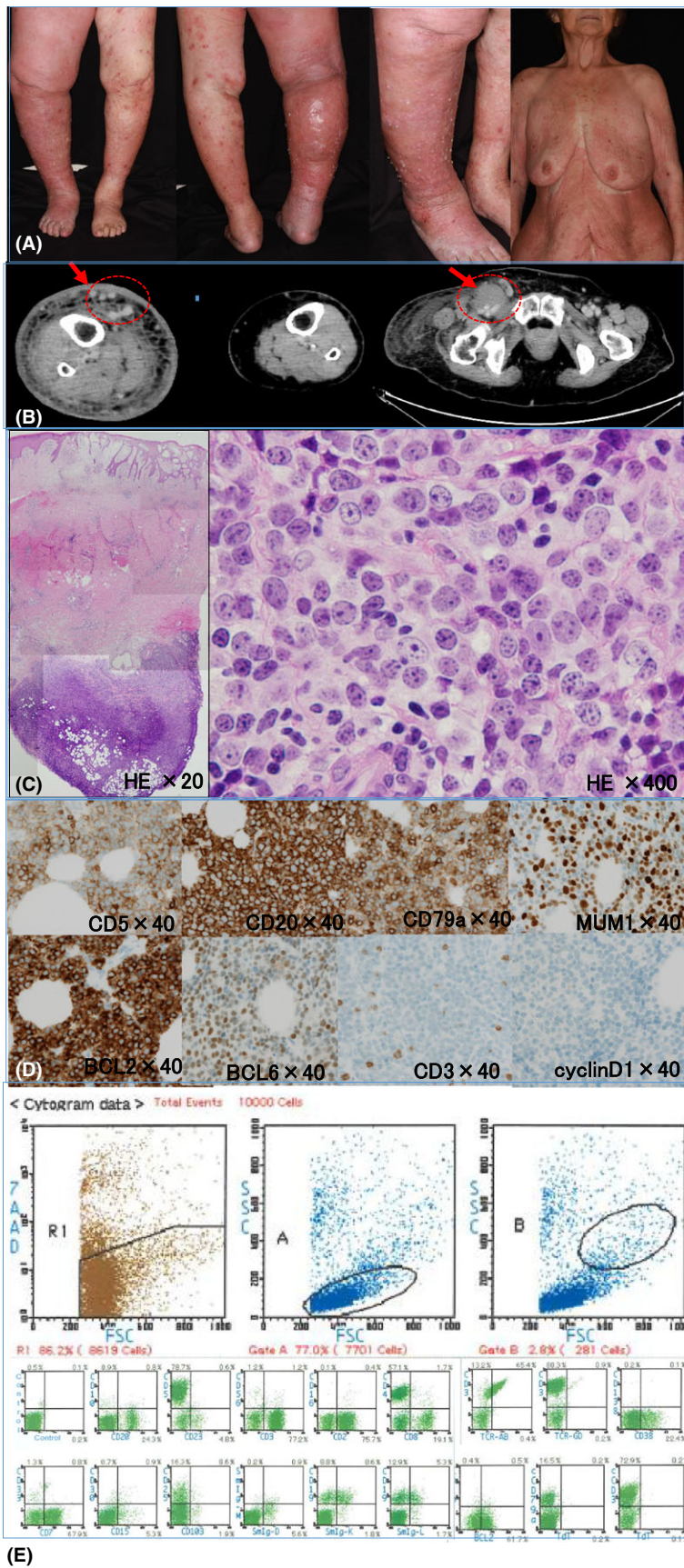


FIGURE 1 Clinical and laboratory findings. A, Physical examination showed swelling in the lymph nodes in the right inguinal region and swelling and erythema of the right leg. B, A computed tomography scan showed right inguinal lymphadenopathy and multiple nodular lesions in the skin and subcutaneous of the right leg. C, The biopsy specimen from the right leg showed diffuse proliferation of large cells resembling immunoblasts (amphophilic cytoplasm, eccentric nuclei with one central nucleolus) or centroblasts (pale or basophilic cytoplasm, vesicular chromatin due to chromatin margination). D, Immunohistochemical staining revealed that tumor cells were positive for CD20, CD79a, BCL2, BCL6, and CD5 and negative for cyclinD1, were partly positive for MUM1; and normal T lymphocytes were positive and tumor cells were negative for CD3. E, The flow cytometric analysis revealed bone marrow infiltration



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