

Laboratory Characteristics of Lymphoplasmacytic Lymphoma with Plasma Cells Containing “Diamond-Shaped” Inclusions

“Elmas Şekli” İnküzyonlar İçeren Plazma hücreli Lenfoplazmasitik Lenfomanın Laboratuvar Özellikleri

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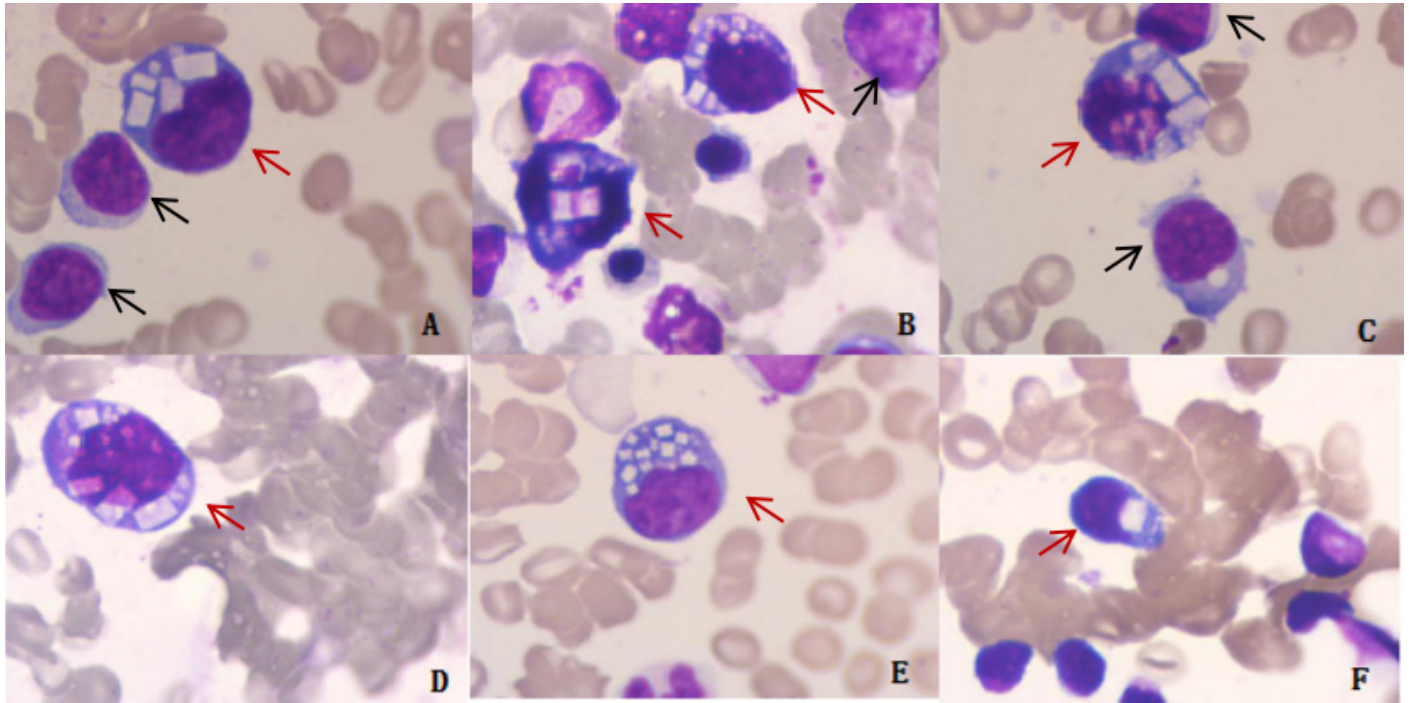


Figure 1. A-D) Atypical lymphocytes accounted for 41.6% with regular cell bodies, high nuclear-cytoplasmic ratio, and indistinct nucleoli (black arrows), while plasma cells accounted for 11.6%, with 10.8% of cells being abnormal and containing quadrilateral, colorless, transparent inclusions (red arrows). E, F) Peripheral blood showed increased white blood cells, decreased granulocyte ratio, and 51% abnormal lymphocytes and plasma cells with morphology similar to that observed from bone marrow smears (red arrows).



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A 65-year-old male patient was admitted to the hospital due to dyspnea for over 20 days. He had bilateral pleural effusion, mediastinal lymphadenopathy, and splenomegaly. Bone marrow morphology showed markedly active proliferation, and granulocytic and erythroid series were hypocellular without significant abnormalities, with some mature erythrocytes in rouleaux formation. Atypical lymphocytes accounted for 41.6% with regular cell bodies, high nuclear-cytoplasmic ratio, and indistinct nucleoli (Figures 1A-1C, black arrows). Plasma cells accounted for 11.6%, with 10.8% of cells being abnormal and containing quadrilateral, colorless, transparent inclusions (Figures 1A-1D, red arrows). Peripheral blood showed increased white blood cells, decreased granulocyte ratio, and 51% abnormal lymphocytes and plasma cells with morphology similar to that observed from bone marrow smears (Figures 1E and 1F, red arrows). Immunophenotyping suggested CD5⁺CD10⁻ small B-cell lymphoma with 2.23% monoclonal plasma cells. Serum immunoglobulin (Ig) quantification showed elevated IgG of 17.80 g/L, and immunofixation electrophoresis indicated monoclonal Ig of the IgG- κ type. Molecular analysis confirmed the presence of the *MYD88* (L265P) mutation, with a mutation rate of 55.29%, through DNA sequencing. Cytogenetic studies demonstrated a complex karyotype associated with lymphoma, specifically 48,XY,+3,t(8;14)(q24.1;q32.3),+18[13]/48,idem,d el(3)(p25p11)[11]/47,XY,+3,der(3;14)(q10;q10)t(8;14),t(4;12)(q21;p13),der(8)t(8;14),+18[2]/46,XY[4].

Laboratory results collectively supported the diagnosis of small B-cell lymphoma, classified as lymphoplasmacytic lymphoma. Plasma cells with crystalline inclusions are rare, having been previously reported in multiple myeloma but rarely in lymphoma [1]. Immunological and electron microscopic studies confirmed that these crystalline inclusions indicate aberrant Ig synthesis and originate from the rough endoplasmic reticulum [2]. The non-IgM type of lymphoplasmacytic lymphoma is also clinically uncommon [3,4,5]. This case provides laboratory data and support for further explorations of the clinical and biological features of lymphoplasmacytic lymphoma.

Keywords: Lymphoplasmacytic lymphoma, Inclusions, Plasma cells, Laboratory diagnosis

Anahtar Sözcükler: Lenfoplazmasitik lenfoma, İnküzyonlar, Plazma hücreleri, Laboratuvar tanısı

Ethics

Informed Consent: It was obtained.

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Footnotes

Authorship Contributions

Surgical and Medical Practices: Y.M., G.Z., Y.Z., S.W., L.C.; Concept: Y.M.; Design: Y.M., J.Z., S.W.; Data Collection and Processing: G.Z., Y.Z., S.W., L.W., L.C.; Analysis or Interpretation: Y.Z., J.Z.; Literature Search: G.Z., S.W., L.W., L.C.; Writing: Y.M.

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