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Blood Research Educational Material

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Do not jump to hasty conclusions: all gamma delta T-cells neoplasms are not aggressive!

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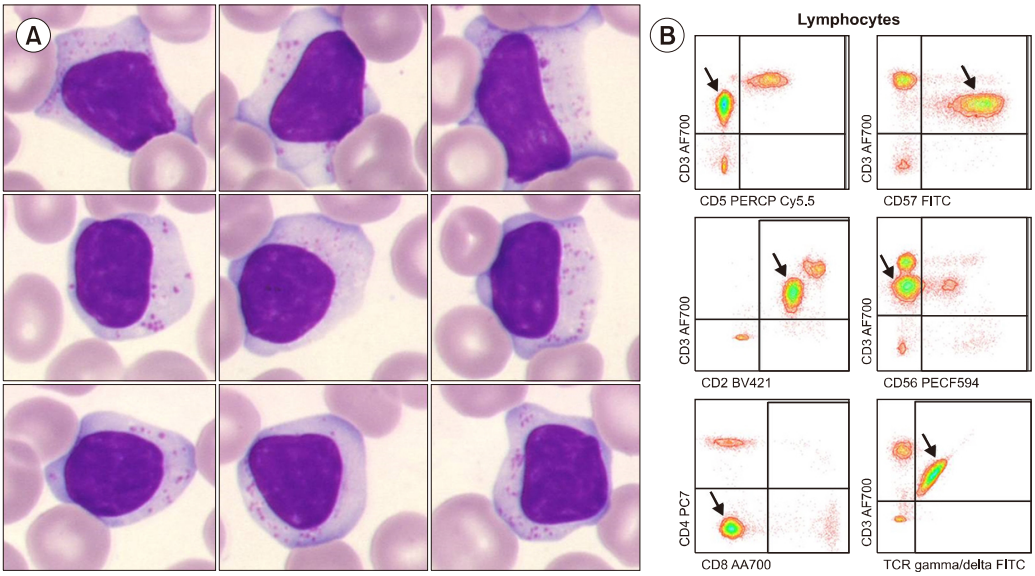

A 48-year-old woman with rheumatoid arthritis followed for five years was referred to our facility due to unexplained neutropenia. Except for inflammatory syndrome, blood biochemistry results were normal. Complete blood count revealed slight thrombocytopenia (146×10^9/L) and moderate neutropenia (0.57×10^9/L). Clinical examination was otherwise normal. Blood smear revealed increased large granular lymphocytes (3.5×10^9/L) representing 60% of leukocytes (**A**, May-Grünwald-Giemsa, ×1,000). Flow cytometry showed CD3+CD8-CD4- TCR gamma delta T-cells with low CD5 expression and CD57 and HLA-DR co-expression **(B)**. PCR analysis of TCRG gene rearrangement revealed aT-cell clonality. These results supported the diagnosis of gamma delta T-cell granular lymphocytic leukemia (γδ T-LGL leukemia). Initial treatment of rheumatoid arthritis with hydroxychloroquine was replaced with methotrexate 10 mg/m^2 per week. For the subsequent 8 years, the blood count was normal and rheumatoid arthritis has been well controlled. However, T-LGL persists.

T-LGL leukemias are rare lymphoproliferative diseases defined by CD3+ cytotoxic clonal expansion. γδ T-LGL leukemias are commonly associated with rheumatoid arthritis, neutropenia, and thrombocytopenia. They share similar indolent course with classical alpha beta T-LGL leukemias. Thus, γδ T-LGL leukemias need to be distinguished from aggressive γδ T-cell lymphomas (such as hepatosplenic and cutaneous γδ T-cell lymphomas).