

T-cell lymphoproliferative syndrome with atypical cytometric profile : a case of angioimmunoblastic T-cell lymphoma

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Background

Angioimmunoblastic T-cell lymphoma (AITL) is a rare lymphoproliferative disorder, accounting for approximately 1–2% of non-Hodgkin lymphomas. Its diagnosis relies on a combination of clinical, cytological, histological, and immunophenotypic findings[1]. We report a unique case highlighting the contribution of flow cytometry in diagnostic guidance.

Materials and Methods

A 74-year-old male patient, followed for treatment-refractory cutaneous T-cell lymphoma, was referred for investigation of lymphocytosis (30,980/mm³). Lymphocyte immunophenotyping was performed on peripheral blood using 12-colour multiparameter flow cytometry (Attune NxT).

Results

The study revealed a T-cell population with high CD45 expression, expressing CD2, CD4, and CD5, with aberrant loss of surface CD3 and CD7. TCR $\alpha\beta$ expression was reduced (5.3%), with absence of TCR $\gamma\delta$. The CD4/CD8 ratio was markedly elevated (51.6). No clonal B-cell population was detected. NK cells represented 6% of lymphocytes. This

cytometric profile, combining CD4+ expansion with aberrant CD3/CD7 loss, is indicative of angioimmunoblastic T-cell lymphoma.

Conclusions

This case illustrates the diagnostic complexity of T-cell lymphomas and the emergence of AITL in a patient followed for refractory cutaneous T-cell lymphoma. It emphasises the importance of immunophenotypic follow-up and multiparameter flow cytometry for identifying an atypical T-cell clone, guiding the diagnosis of rare lymphoproliferative syndromes, and informing clinical management.

Keywords Angioimmunoblastic T-cell lymphoma, flow cytometry, lymphoproliferative syndrome, T-cell clone, case report

References

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