Spontaneous Remission of Monoclonal B-Cell Lymphocytosis (MBL) and Chronic Lymphocytic Leukemia (CLL): A 10-Year Follow-Up

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INTRODUCTION

Monoclonal B-cell lymphocytosis (MBL) is defined as a clonal B-cell count <5 × 10^9/L in peripheral blood without lymphadenopathy, organomegaly, extramedullary involvement, or associated hematologic malignancy. It affects ~5% of individuals >60 years old and carries a 1% annual risk of progression in high-count cases.

Chronic lymphocytic leukemia (CLL) is the most common leukemia in Western countries, typically with an indolent course. **Spontaneous remission of MBL or CLL is exceptionally rare.**[1]

AIM

To report two cases—one MBL and one early-stage CLL—demonstrating **spontaneous regression** over a 10-year clinical follow-up.

OBJECTIVES

- To describe the clinical, hematological, and immunophenotypic features of both cases.
- To analyze the long-term evolution and spontaneous regression of clonal B-cell populations.
- To discuss the implications for disease monitoring and management.

METHODS

Design: Retrospective, observational descriptive study.

Setting: Private tertiary care hospital (Buenos Aires, Argentina).

Patients: Two women, aged 60 and 71 at diagnosis, with high-count MBL/early-stage CLL.

Follow-up: >10 years of clinical and hematological monitoring without therapy.

Assessments: Serial blood counts and flow cytometry to evaluate clonal B-cell populations.

SUMMARY

We report two cases—a high-count MBL and an early-stage CLL—that underwent **spontaneous remission** after more than 10 years of follow-up without therapy. Both patients experienced normalization of lymphocyte counts and complete disappearance of clonal B-cells by flow cytometry. These findings, though rare, underscore the relevance of **long-term monitoring** in indolent B-cell disorders to avoid unnecessary treatment.

DISCUSSION

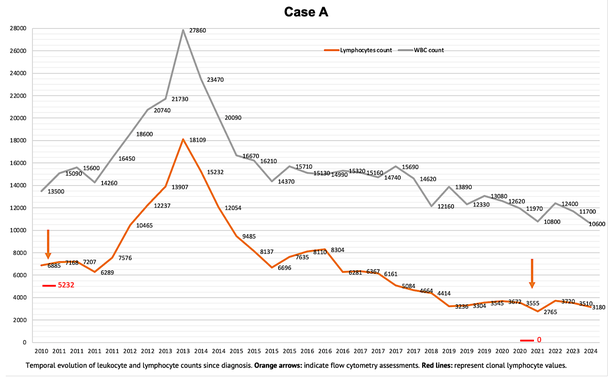
Spontaneous remission in CLL and MBL remains an exceptional phenomenon, with isolated cases documented in the literature.[2] Its underlying mechanisms are not fully understood but may involve enhanced immune surveillance, shifts in the microenvironment, or immune activation triggered by infections.

Several studies emphasize that disease evolution is influenced by an interplay between genomic alterations and the microenvironment surrounding the tumor cell.[3] They also underscore the value of prolonged, careful monitoring in indolent B-cell disorders, which can prevent premature or unnecessary treatment interventions.

RESULTS

Case A – Early-stage CLL

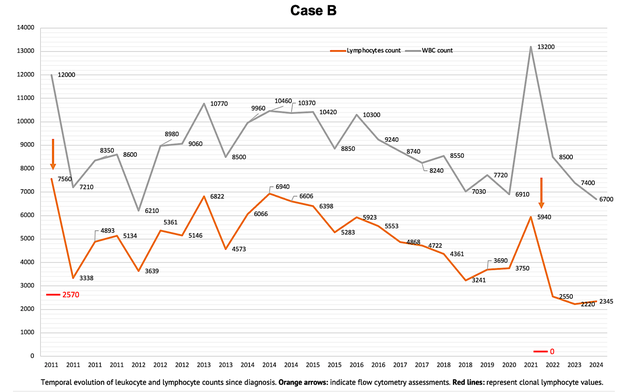
- **Diagnosis:** a 60-year-old asymptomatic woman was diagnosed in 2010, lymphocytes 6.89 × 10^9/L; smear: Gumprecht shadows. (Rai Stage 0)
- **Immunophenotype:** CD45+, CD19+, CD20(dim), CD5+, CD23+, CD11c+, CD25+, CD200+, FMC7+, CD79b+, surface light chain–. Monoclonal B-cell population representing 76% of lymphocytes.
- **Course:** Peak lymphocytes 18.11 × 10^9/L at 34 months; gradual decline after 98 months remaining at Rai stage 0; **clonal B-cells undetectable by 2018**. Subsequent flow cytometry (2018–2024) showed **complete disappearance of the clonal population**, sustained for over six years, with the patient remaining asymptomatic and with normal counts at last follow-up in 2024.



Temporal evolution of leukocyte and lymphocyte counts since diagnosis. **Orange arrows:** indicate flow cytometry assessments. **Red lines:** represent clonal lymphocyte values.

Case B (MBL):

- **Diagnosis:** a 71-year-old woman was diagnosed in 2011 during a routine check-up with lymphocytosis (ALC 7.56 × 10^9/L) and no lymphadenopathy.
- **Immunophenotype:** Flow cytometry identified a clonal B-cell population comprising 34% of lymphocytes with a CLL-type phenotype CD19+, CD20(dim), CD5+, CD23+, CD79b+, CD38–
- **Course:** Lymphocyte counts fluctuated, peaking at 6.94 × 10^9/L at 40 months, followed by a progressive decline, achieving normalization by month 85. In 2021, during hypoxemic COVID-19 pneumonia, reactive lymphocytosis prompted reassessment, which revealed **no detectable clonal B-cells**. This finding persisted, with stable counts and no clinical progression through 2024.



Temporal evolution of leukocyte and lymphocyte counts since diagnosis. **Orange arrows:** indicate flow cytometry assessments. **Red lines:** represent clonal lymphocyte values.

REFERENCES

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