

In 2012, Wendy Grey Nieto Pérez defended the thesis on “Monoclonal B-cell lymphocytosis: reporting frequency in general population in Salamanca and phenotypic and genetic characteristics analyses of b lymphoid clone”, revised by Professors Alberto Orfao and Julia Almeida.

The general objective was to deepen the understanding of Monoclonal B-cell lymphocytosis in healthy adults without lymphocytosis diagnosed, selected from Salamanca district.

Specific objectives obtained were as follows:

1. To establish the reporting **frequency of B-clonal lymphoid populations in blood of adults over 40**, selected in a random way.
2. To determine **whether B CD5+ populations with phenotype of B-Chronic Lymphatic Leukemia** where **systematically presented in blood** of high age adults, as a reflect of its **possible origin and physiological vs pathologic character**.
3. Study of **phenotypic and genetic characteristics of each Monoclonal B lymphocytes population** detected in apparently healthy subject, their **comparison** with those of **neoplastic B cells of chronic lymphoproliferative syndrome of B cells**.
4. To improve understanding of the **evolution, researching**, whether in one year after its detection, there are **changes in numbers** and/or **phenotypical alterations in B-cell lymphoid clone** of those **individuals with monoclonal B-cell lymphocytosis**.

Following **conclusions** were reached:

- The **frequency** of monoclonal B cells, chronic lymphocytic leukemia (CLL)-like B cells in general population is markedly higher than previously reported, and the incidence is progressively increasing with age. The detection may largely depend on the **sensitivity** of the **flow cytometry** approach used.
- There is a great **prevalence of small numbers of CLL-like B-cells** among adults of increasing age, supporting the notion that they might be present among virtually every subject older than 70 years
- Results show that among the general population, **up to 2% of adults aged >40 years carry circulating non-CLL-like B-cell clones in PB**. Relatively often, these subtypes of monoclonal non-CLL-like MBL cells are bi-clonal and represent an overlapping immunophenotypic profile with that of marginal zone-derived non-Hodgkin lymphoma, lymphoplasmacytic lymphoma or mantle-cell lymphoma, although in some cases they are phenotypically unclassified. Likewise, as happens in CLL-like MBL, the **prevalence of non-CLL-like MBL increases progressively with age with a clear predominance of males**.

Scientific Papers associated:

- Increased frequency (12%) of circulating chronic lymphocytic leukemia-like B-cell clones in healthy subjects using a highly sensitive multicolor flow cytometry approach., *Blood*. 2009 Jul 2;114(1):33-7. doi: 10.1182/blood-2009-01-197368. Epub 2009 May 6. <https://pubmed.ncbi.nlm.nih.gov/19420353/>
- CLL-like B-lymphocytes Are Systematically Present at Very Low Numbers in Peripheral Blood of Healthy Adults. *Leukemia*. 2011 Apr;25(4):718-22. doi: 10.1038/leu.2010.305. Epub 2011 Jan 14. https://pubmed.ncbi.nlm.nih.gov/21233839/?from_single_result=CLL-like+B-lymphocytes+are+systematically+present+at+very+low+numbers+in+peripheral+blood+of+healthy+adults
- Non-CLL-like Monoclonal B-cell Lymphocytosis in the General Population: Prevalence and Phenotypic/Genetic Characteristics. *Cytometry B Clin Cytom*. 2010;78 Suppl 1:S24-34. doi: 10.1002/cyto.b.20543. https://pubmed.ncbi.nlm.nih.gov/20839335/?from_single_result=non+CLL-like+Monoclonal+B-cell+lymphocytosis+in+the+general+population%3A+prevalence+and+phenotypic%2Fgenetic+characteristics

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