Persistent polyclonal B-cell lymphocytosis with typical morphologic and genetic hallmarks in a middle-aged, woman smoker

A 37-year old asymptomatic, heavy smoker, female presented with persistent lymphocytosis. Her mother had suffered from Hodgkin's lymphoma. She had 8.5×10^9/L lymphocytes with typical binucleated cells (Figure 1). Immunophenotyping disclosed 75% B-lymphocytes expressing CD45RA/19/20/22/79β/FMC7 without light-chain-restriction (κ:77%; λ:43%). Polymerase chain reaction (PCR) for heavy-chain-gene rearrangement excluded clonality (Figure 2). PCR investigations for bcl-2/IgH rearrangements were positive (MBR and MCR) (Figures 3-4). She had 13-cm splenomegaly, as detected by ultrasound, polyclonal IgM of 650 mg/dL, IgG-type-antibodies against VCA/EBNA of Epstein-Barr-Virus and HLA-DR7.

Persistent polyclonal B-cell lymphocytosis is a rare, benign condition. Bcl2-oncogene rearrangements are common in these lymphocytes, although their pathogenicity and role in a possible lymphoid malignancy evolution are uncertain.[1]

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References

1. Roy J, Ryckman C, Bernier V, et al. Large cell lymphoma complicating persistent polyclonal B cell lymphocytosis. Leukemia 1998; 12:1026-30.

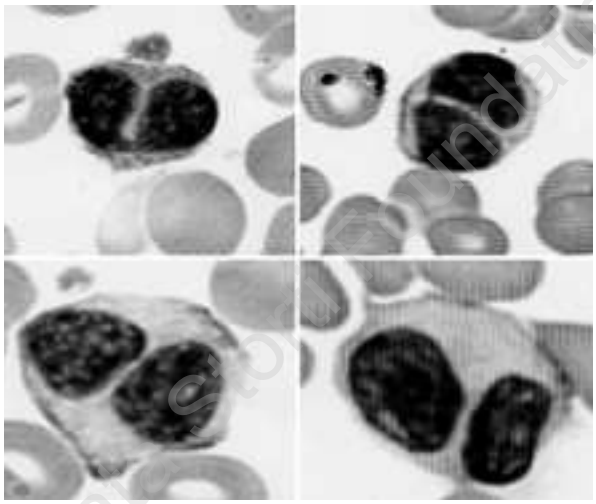

Figure 1. Peripheral blood with typical binucleated lymphocytes.

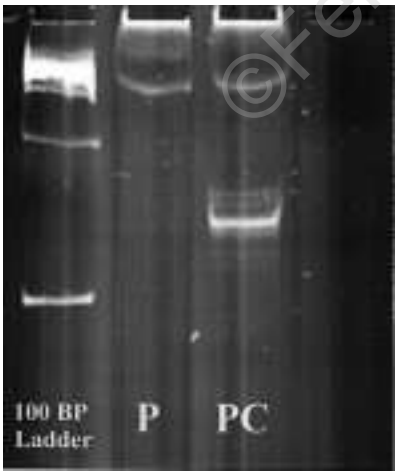

Figure 2. PCR study for the rearrangement of the immunoglobulin heavy chain gene. P: patient; PC: positive control; NC: negative control (100 BP ladder); molecular weight marker.

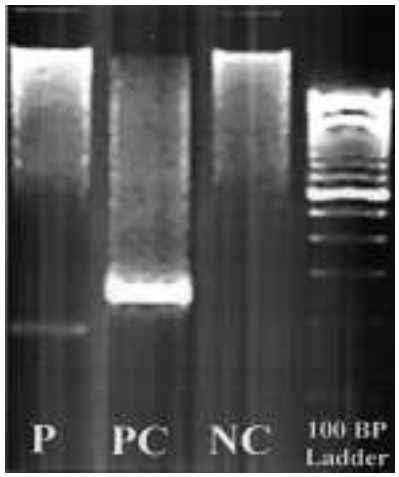

Figure 3. PCR study for the Bcl-2/IgH rearrangement (MBR region). P: patient; PC: positive control; NC: negative control (100 BP ladder); molecular weight marker.

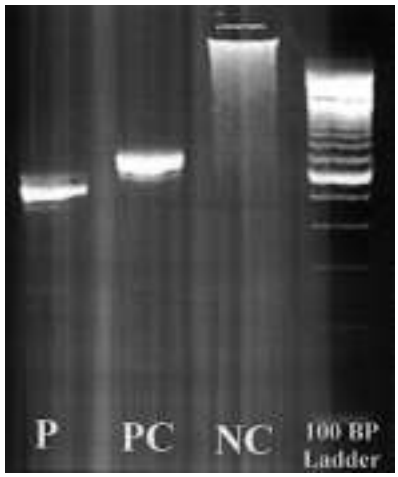

Figure 4. PCR study for the Bcl-2/IgH rearrangement (MCR region). P: patient; PC: positive control; NC: negative control (100 BP ladder); molecular weight marker.