



Short Communication

Assessment of *BCL2/J(H)* translocation in healthy individuals exposed to low-level radiation of ¹³⁷CsCl in Goiânia, Goiás, Brazil

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ABSTRACT. Healthy radio-exposed individuals who received low levels of Cesium-137 radiation during the accident that occurred in Goiânia in 1987, their families and controls were tested for the detection of t(14;18)-rearranged B cells in peripheral blood by using a highly sensitive, real-time quantitative PCR method. The chromosomal translocation t(14;18)(q32;q21) is characteristic of follicular lymphoma and is a frequent abnormality observed in other types of non-Hodgkin's

lymphoma. This translocation leads to constitutive activation of the *BCL2* oncogene by the enhancers of the immunoglobulin heavy-chain locus. In healthy individuals, the same translocation may also be found in a small fraction of peripheral blood lymphocytes, and positive cells might serve as an indicator for environmental exposure to carcinogens and possibly correlate with the cumulative risk of developing t(14;18)-positive non-Hodgkin's lymphoma. Twenty healthy radio-exposed individuals, 10 relatives and 10 non-exposed healthy individuals were tested for the detection of this translocation. Only 1 non-exposed individual was positive for the chromosomal translocation, and healthy radio-exposed individuals presented lower levels of cells bearing the *BCL2/J(H)* rearrangement when compared to the levels of the patients with follicular lymphoma before treatment. However, evaluation of more cells would be required to confirm the total absence of circulating cells bearing *BCL2/J(H)* rearrangement.

Key words: Cesium-137; Translocation; Lymphoma; Rearrangement; *BCL2/J(H)*; Radiation