

Leukaemia Section

Short Communication

t(1;14)(p22;q32) in non Hodgkin's lymphoma (NHL)

Antonio Cuneo, Gianluigi Castoldi

Hematology Section, Department of Biomedical Sciences, University of Ferrara, Corso Giovecca 203, Ferrara, Italy (AC)

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Clinics and pathology

Disease

The translocation is cytogenetically detectable in a minority of extranodal MALT lymphomas; irrespective of the presence of the 1;14 translocation, mutation or deletion of the BCL10 gene located at 1p22 can be detected by molecular genetic methods in 5-10% of extra-nodal MALT lymphomas, follicle centre cell lymphoma and diffuse large B-cell lymphoma; among MALT lymphoma a preferential association was noted with high-grade histology.

Prognosis

In MALT lymphoma there may be an association with aggressive histology and antibiotic-unresponsive forms.

Cytogenetics

Cytogenetics morphological

The translocation is readily detectable by conventional karyotyping.

Genes involved and proteins

Note

The breakpoints on chromosome 1p22 are located upstream of the promoter of the BCL10 gene, which shows inactivating mutations or deletions.

BCL10

Location: 1p22

Protein

322 amino acids; contains a caspase recruitment domain; role in the apoptosis.

IgH

Location: 14q32

References

Wotherspoon AC, Pan LX, Diss TC, Isaacson PG. Cytogenetic study of B-cell lymphoma of mucosa-associated lymphoid tissue. *Cancer Genet Cytogenet.* 1992 Jan;58(1):35-8

Willis TG, Jadayel DM, Du MQ, Peng H, Perry AR, Abdul-Rauf M, Price H, Karran L, Majekodunmi O, Wlodarska I, Pan L, Crook T, Hamoudi R, Isaacson PG, Dyer MJ. Bcl10 is involved in t(1;14)(p22;q32) of MALT B cell lymphoma and mutated in multiple tumor types. *Cell.* 1999 Jan 8;96(1):35-45

Zhang Q, Siebert R, Yan M, Hinzmann B, Cui X, Xue L, Rakestraw KM, Naeve CW, Beckmann G, Weisenburger DD, Sanger WG, Nowotny H, Vesely M, Callet-Bauchu E, Salles G, Dixit VM, Rosenthal A, Schlegelberger B, Morris SW. Inactivating mutations and overexpression of BCL10, a caspase recruitment domain-containing gene, in MALT lymphoma with t(1;14)(p22;q32). *Nat Genet.* 1999 May;22(1):63-8

Du MQ, Peng H, Liu H, Hamoudi RA, Diss TC, Willis TG, Ye H, Dogan A, Wotherspoon AC, Dyer MJ, Isaacson PG. BCL10 gene mutation in lymphoma. *Blood.* 2000 Jun 15;95(12):3885-90

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