t(1;14)(q21;q32) FCGR2B/IGH

Clinics and Pathology

Disease Follicular lymphoma in one CD10+ case, but without a t(14;18)(q32;q21), bcl2 negative, and with a t(1;14)(q21;q32); follicular lymphoma with FCGR2B rearrangement and dup(1)(q21q25)in another case .

Epidemiology These two cases with FCGR2B rearrangement were found among a panel of 76 non Hodgkin's lymphomas.

Prognosis May be associated with tumor progression.

Cytogenetics

Cytogenetics Morphological One case with 46, XX, t(1;14)(q21;q32), t(8;9)(q24;q13); progression to a diffuse large cells lymphoma with a complexe caryotype. An another case with FCGR2B rearrangement in a follicular lymphoma: the karyotype was complexe with dup(1)(q21q25), t(14;18)(q32;q21).

Genes involved and Proteins

Gene Name FCGR2B

Location 1q22

Gene Name IgH

Location 14q32

Result of the chromosomal anomaly

Hybrid gene Description The translocation juxtapose the 5' switch region og IGHG2 to a region upstream of FCGR2B in the der(1) chromosome.FCGR2B is deregulated by this translocation and FCGR2B b2 mRNA isoform is overexpressed.

Fusion Protein Note No fusion protein.

Oncogenesis It is possible that alteration in the b2/b1 mRNA isoforms ratio in B-cells may promote B cell survival. This anomaly is bcl2 deregulation-independant because FCGR2B has been shown to be a tumor-enhancing factor in non lymphoid cells in murine in vivo and in vitro models. Deregulation of FCGR2B expression can be considered as a

second event which may impart additional growth advantage to the bcl2 deregulated B-cells.

External links

Other database	t(1;14)(q21;q32) FCGR2B/IGH	Mitelman database (CGAP - NCBI)
Other database	t(1;14)(q21;q32) FCGR2B/IGH	CancerChromosomes (NCBI)

To be noted

Additional cases are needed to delineate the epidemiology of this rare entity:
you are welcome to submit a paper to our new Case Report section.

Bibliography

Deregulation of FCGR2B expression by 1q21 rearrangements in follicular lymphomas.
CHEN W, PALANISAMY N, SCHMIDT H, TERUYA-FELDSTEIN J, JHANWAR SC, ZELENETZ AD, HOULDSWORTH J, CHAGANTI RS.
Oncogene 2001; 20: 7686-7693
Medline 11753646

Non-Hodgkin's Lymphoma. Molecular features of B Cell Lymphoma.
MACINTYRE E, WILLEFORD D, MORRIS SW.
Hematology (Am Soc Hematol Educ Program) 2000; 180-204.
Medline Hematology

The IgG Fc receptor, FcgammaRIIB, is a target for deregulation by chromosomal translocation in malignant lymphoma.
CALLANAN MB, LE BACCON P, MOSSUZ P, DULEY S, BASTARD C, HAMOUDI R, DYER MJ, KLOBECK G, RIMOKH R, SOTTO JJ and LEROUX D
Proc. Natl. Acad Sci USA 2000; 97: 309-314
Medline 10618414

Contributor(s)

Written	02-2005	Jacques Boyer

Citation

This paper should be referenced as such :

Boyer J . t(1;14)(q21;q32) FCGR2B/IGH. Atlas Genet Cytogenet Oncol Haematol. February 2005 . URL : http://www.infobiogen.fr/services/chromcancer/Anomalies/t0114q21q32ID1341.html