Leukaemia Section
Short Communication

\(t(2;11)(p21;q23)\)

Elena W Fleischman
Cancer Research Center, Moscow, Russia (EWF)

Published in Atlas Database: January 2000
Online updated version: http://AtlasGeneticsOncology.org/Anomalies/t0211ID1109.html
DOI: 10.4267/2042/37584
This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 2.0 France Licence. © 2000 Atlas of Genetics and Cytogenetics in Oncology and Haematology

Identity

\[\begin{align*}
2 & \quad \text{der}(2) \quad \text{der}(11) \quad 11 \\
\end{align*}\]

\(t(2;11)(p21;q23)\) G-band (left) - Courtesy Eric Crawford, and R-band (Editor).

Clinics and pathology

**Disease**
Myelodysplastic syndromes (MDS), acute non lymphocytic leukemia (ANLL) and acute lymphoblastic leukemia (ALL).

**Phenotype/cell stem origin**
20 cases were documented, 14 of them were MDS; in three cases, type of MDS was not described; the remaining cases were: 2 AISA, 5 RA and 4 RAEB; in 6 patients, MDS has transformed into ANLL (M1, M5a, M6 and unidentified); in 6 cases acute leukemia was diagnosed: 4 ANLL, 2 ALL; ANLL FAB-types were: M0 evolving into M4, M1, M2 and atypical M3.

**Epidemiology**
Male predominance: 13 M:7 F; the majority of patients (16 out of 20) were over 50 years of age and 8 of them were over 60 years of age.

**Clinics**
Variable.

**Prognosis**
Due to heterogeneity of cases and lack of molecular data, the prognostic importance of \(t(2;11)(p21;q23)\)
cannot be assessed; in 6 cases of MDS transformation into ANLL, MDS phase varied from 18 months to 5 years; in 4 out of 5 ANLL cases treated in 1986-1993, remission duration varied from 6 to 13 months.

**Cytogenetics**

**Cytogenetics morphological**
A high variability of breakpoints on both chromosome 2 (2p16-2p21) and chromosome 11 (11q13-11q25) were found by conventional cytogenetics.

**Cytogenetics molecular**
MLL gene involvement was observed in 2 out of 3 cases studied.

**Additional anomalies**
Additional abnormalities were observed in 10 out of 20 cases; in 8 cases, del(5)(q13q33) is found; it is of note, that deletions of 5q usually are not seen in cases with MLL-associated translocations.

**Genes involved and proteins**

**Note**
The gene involved in 2p is unknown.

**MLL**

**Location**
11q23

**DNA/RNA**
37 exons, spanning about 120 kb; 13-15 mRNA.

**Protein**
431 kD; transcriptional regulatory factor, nuclear localization; Contains two DNA binding motifs (a AT hook and zinc fingers), a DNA methyl transferase motif.

**Result of the chromosomal anomaly**

**Hybrid gene**
Description
Unknown.

**Fusion protein**
Description
Unknown.

**References**


This article should be referenced as such: