Leukaemia Section
Short Communication

\(t(19;21)(q13.4;q22)\)

Jean-Loup Huret

Genetics, Dept Medical Information, University of Poitiers, CHU Poitiers Hospital, F-86021 Poitiers, France (JLH)

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Clinics and pathology

**Disease**
Acute non lymphocytic leukemia (ANLL) secondary to toxic exposure.

**Note**
Only one case, but with features identical to 2 other cases: one case of \(t(1;21)(p36;q22)\), and one case of \(t(18;21)(q21;q22)\).

**Phenotype/cell stem origin**
M2-ANLL

**Etiology**
About 50 years after radiation exposure from nuclear explosion.

**Clinics**
Pancytopenia preceeded leukemia.

**Evolution**
Complete remission was obtained and the patient returned to the previous pancytopenia; subsequent relapse occurred.

Genes involved and proteins

**AMP19**

\[19q13.4\]

**AML1**

\[21q22\]

DNA/RNA
Transcription is from telomere to centromere.

**Protein**
Contains a Runt domain and, in the C-term, a transactivation domain; forms heterodimers; widely expressed; nuclear localisation; transcription factor (activator) for various hematopoietic-specific genes.

Result of the chromosomal anomaly

**Hybrid gene**

**Description**
AMP-19 is fused to AML1 out of frame.

**Fusion protein**

**Description**
Truncated AML1 with the DNA binding domain, but not a transcriptional activation region.

**Oncogenesis**
Could function as a dominant negative inhibitor of normal AML1.

References


This article should be referenced as such: