

## CASE REPORTS in HAEMATOLOGY (Paper co-edited with the European LeukemiaNet)

### A de novo AML with a t(1;21)(p36;q22) in an elderly patient

Paola Dal Cin, Andrew J Yee, Bimalangshu Dey

#### Clinics

Age and sex : 81 yrs old male patient

Previous history : no preleukemia ; -no inborn condition of note

Organomegaly : no hepatomegaly; no splenomegaly; enlarged lymph nodes; no central nervous system involvement

#### Blood

WBC :  $3.3 \times 10^9/l$ ; Hb : N/A g/dl; platelets :  $16 \times 10^9/l$ ; blasts : 2% (CD34+ myeloblasts)

Bone marrow : 20% myeloid precursors, 16% erythroid precursor, 6% lymphocytes, 55% blasts and 2% plasma cells.

#### Cyto pathology classification

Cytology and immunophenotype : AML M0 CD33+, CD13+, MPO-, CD41-, CD61-, CD203c- (5% of all blast).

Rearranged Ig Tcr : N/A

Precise diagnosis : Immunophenotype consistent with the presence of myeloid precursors. Negative markers (CD61,CD41,CD203c) associated with megakaryocytic differentiation; AML M0.

#### Survival

Date of diagnosis: 01-2005

Treatment : Hydroxyurea and supportive care.

Complete remission : None

Treatment related death : -

Relapse : Patient never achieved complete remission.

Status : Dead 02-2005

Survival : 1

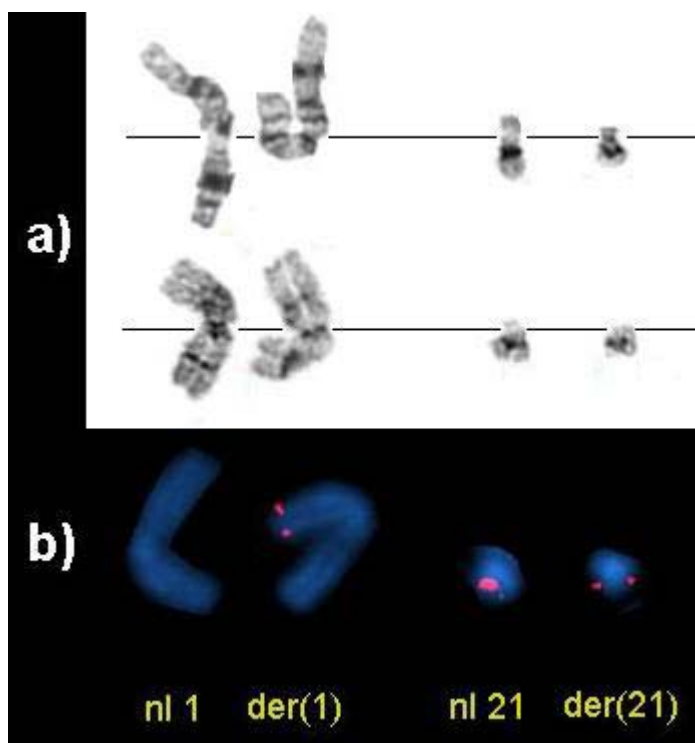
#### Karyotype

Sample : Bone marrow; culture time : 24; banding : GTG

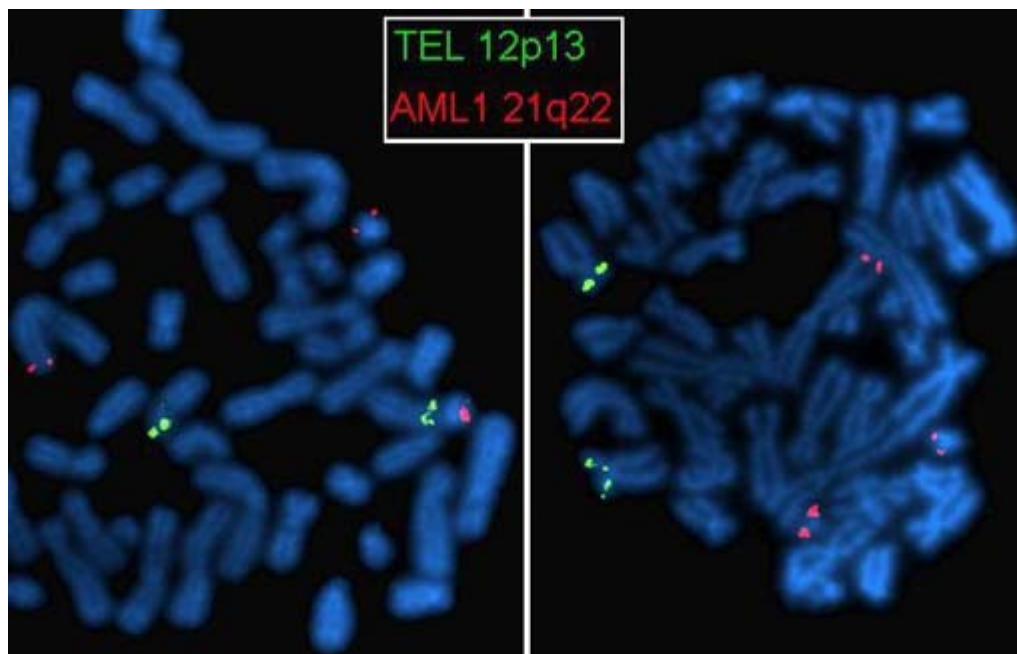
Results : 46,XY,t(1;21)(p36;q22)[15]

Other molecular cytogenetics technics : FISH with LSI (TEL/AML1 ES Dual Color Translocation Probe (Vysis, Inc.) on metaphases (see Fig 2).

Other molecular cytogenetics results : Ish der(1)(dimAML1+), der(21)(dimAML1+).



Partial GTG-banding karyotype showing t(1;21)(p36;q22) (a)  
 Partial FISH analysis showing the AML1 hybridization signals on derivative chromosomes 1 and 21, and on the normal chromosome 21 (b)



#### Comments

The t(1;21)(p36;q22) so far reported, is generally observed as the sole chromosomal abnormality (5/6), and is mostly a de novo aberration (4/6). The short survival (one month) of our case, confirms the poor prognosis in these patients carrying this chromosome abnormality.

#### Internal links

Atlas Card [t\(1.21\)\(p36;q22\)](#)

#### Bibliography

**Identification of truncated RUNX1 and RUNX1-PRDM16 fusion transcripts in a case of**

**t(1;21)(p36;q22)-positive therapy-related AML.**

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Leukemia 2006; 20: 1187-1189.

Medline [16598304](#)

**t(1;21)(p36;q22) - updated.**

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<http://AtlasGeneticsOncology.org/Anomalies/t0121ID1186.html>

**Contribution of multiparameter genetic analysis to the detection of genetic alterations in hematologic neoplasia. An evaluation of combining G-band analysis, spectral karyotyping, and multiplex reverse-transcription polymerase chain reaction (multiplex RT-PCR).**

Preiss BS, Kerndrup GB, Pedersen RK, Hasle H, Pallisgaard N; Lymphoma-Leukemia Study Group of the Region of Southern Denmark.

Cancer Genet Cytogenet 2006; 165: 1-8.

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**Contributor(s)**

**Written** 03-2007 Paola Dal Cin, Andrew J Yee, Bimalangshu Dey

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