

Case Report Section

Paper co-edited with the European LeukemiaNet

Translocation t(8;12)(q13;p13) in a case with acute leukemia of ambiguous lineage

Marta Susana Gallego, Mariela Coccé, Andrea Bernasconi, Maria Felice, Cristina Alonso, Myriam Gutter

Laboratorio de Citogenetica - Servicio de Genetica- Servicio de Inmunologia - Servicio de Hemato-Oncologia, Hospital de Pediatria SAMIC 'Prof. Dr. J. P. Garrahan', Buenos Aires, Argentina

Published in Atlas Database: August 2007

Online updated version is available from: <http://AtlasGeneticsOncology.org/Reports/0812GallegoID100029.html>

DOI: 10.4267/2042/38566

This work is licensed under a Creative Commons Attribution-Non-commercial-No Derivative Works 2.0 France Licence.
© 2008 Atlas of Genetics and Cytogenetics in Oncology and Haematology

Clinics

Age and sex: 2 years old female patient.

Previous History :

- no preleukemia;
- no previous malignant disease;
- no inborn condition of note.

Organomegaly :

- no hepatomegal;
- no splenomegal;
- no central nervous system involvement.

Blood

WBC: 254,4 x 10⁹/l; Hb:6,8 g/dl; platelets: 86x 10⁹/l; blasts: L2 morphology%.

Bone marrow: 89% of infiltration by L2 lymphoblasts.

Cytopathology classification

Cytology: Ambiguous lineage acute leucemia.

Immunophenotype: Blast cells were positive for T lineage antigens: CD2, CD7, cCD3; B lineage antigens: CD19 and cCD79a and myeloid antigens: CD13 and CD33. A minor (10%) myeloid blast population was also detected among the leukemic cells expressing MPO and CD117. Other positive markers were CD45, CD34, HLA-DR whereas CD10 and TdT were negative.

Rearranged Ig or Tcr: -

Pathology: -

Electron microscopy: -

Precise diagnosis: acute leukemia of ambiguous lineage.

Survival

Date of diagnosis: 04-2006.

Treatment: 12-ALLIC/BFM-PROTOCOL.

Complete remission was obtained.

Treatment related death: -

Relapse: -

Status: alive 07-2007.

Survival: 14 months

Karyotype

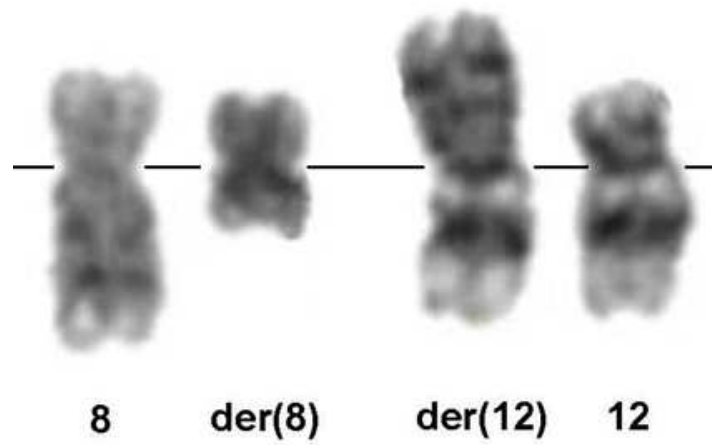
Sample: Bone marrow; Culture time: 24; Banding: G banding.

Results: 46,XX,t(8;12)(q13;p13)[16]/46,XX[4].

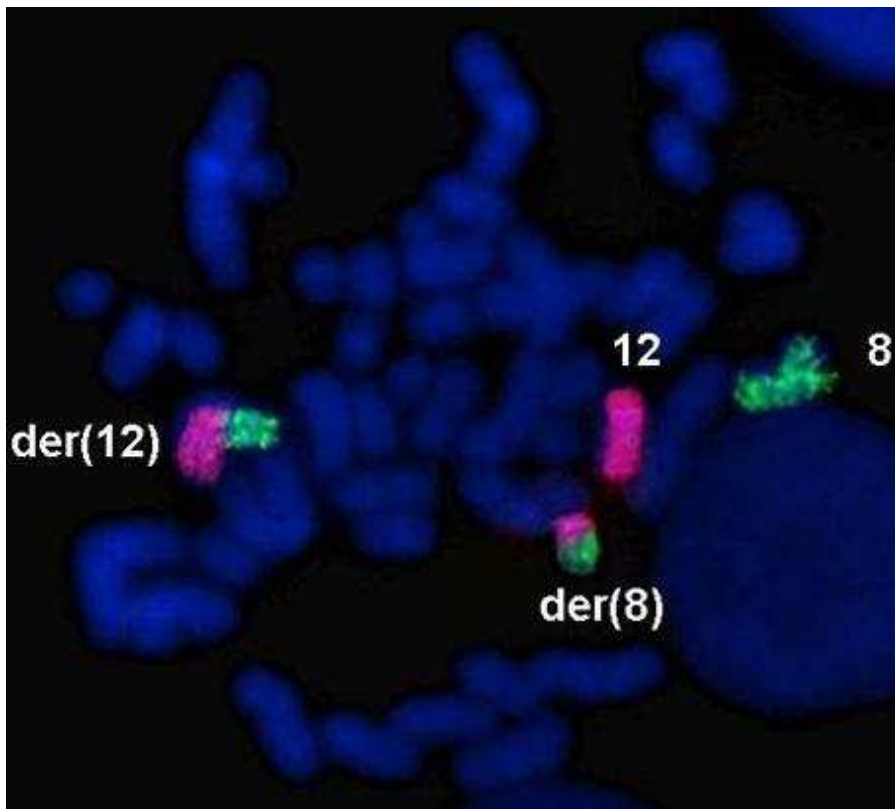
Karyotype at relapse: -

Other molecular cytogenetic technics: Fluorescence in situ hybridization (FISH) with painting probes (WCP 8, WCP 12) and LSI ES Dual Color Translocation Probes (TEL/AML1 and AML1/ETO) (Vysis, Inc.).

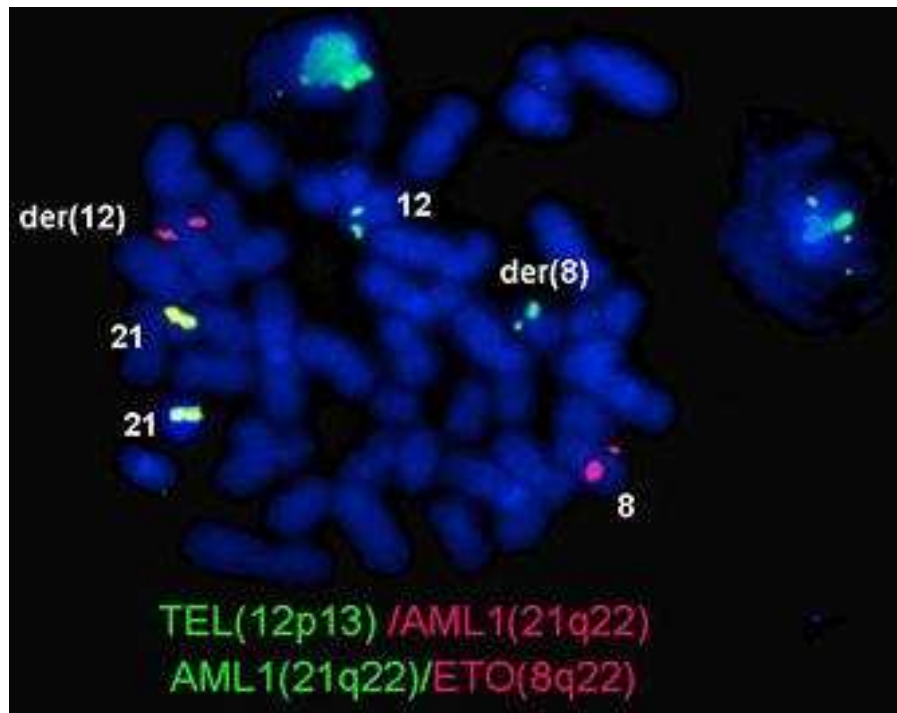
Other molecular cytogenetics results : ish t(8;12)(q13;p13) (WCP8+,WCP12+,TEL+,ETO-;WCP8+,WCP12+,ETO+,TEL-). FISH analysis with TEL/AML1 probe revealed that the gene ETV6 is in the derivate 8 and it is not involved in the translocation.



Partial GTG banded karyotype showing t(8;12)(q13;p13).



FISH with painting probes for chromosomes 8 (green) y 12 (red).



FISH with TEL/AML1 and AML1/ETO probes.

Comments

To our knowledge four cases of t(8;12)(q13;p13) have been reported in the literature. Three of them were described in childhood acute leukemia. The fourth case was described during disease progression in acute myelomonocytic leukemia with t(11;19). It was suggested that t(8;12) might play an important role in the relapse and lead to a poor prognosis. Our patient presented a bad response to prednisone and was considered of high risk group. At present she remains in complete remission.

References

Pui CH, Williams DL, Raimondi SC, Rivera GK, Look AT, Dodge RK, George SL, Behm FG, Crist WM, Murphy SB.

Hypodiploidy is associated with a poor prognosis in childhood acute lymphoblastic leukemia. *Blood* 1987;70(1):247-253.

Schneider NR, Carroll AJ, Shuster JJ, Pullen DJ, Link MP, Borowitz MJ, Camitta BM, Katz JA, Amylon MD. New recurring cytogenetic abnormalities and association of blast cell karyotypes with prognosis in childhood T-cell acute lymphoblastic leukemia: a pediatric oncology group report of 343 cases. *Blood* 2000;96(7):2543-2549.

Yamamoto K, Nagata K, Tsurukubo Y, Inagaki K, Ono R, Taki T, Hayashi Y, Hamaguchi H. Translocation (8;12)(q13;p13) during disease progression in acute myelomonocytic leukemia with t(11;19)(q23;p13.1). *Cancer Genetics and Cytogenetics* 2002;137:64-67.

This article should be referenced as such:

Gallego MS, Coccé M, Bernasconi A, Felice M, Alonso C, Gutter M. Translocation t(8;12)(q13;p13) in a case with acute leukemia of ambiguous lineage. *Atlas Genet Cytogenet Oncol Haematol.*2008;12(4):355-357.
