

Case Report Section

Paper co-edited with the European LeukemiaNet

Translocation t(5;17)(q13;q21) as the sole cytogenetic anomaly in acute myeloid leukemia after chemotherapy and allogeneic bone marrow transplantation for AML-M4: a case report

Elvira D Rodrigues Pereira Velloso, Cristina A Ratis, Edi Cabral, Denize Gonzalez, Nydia S Bacal, Cristóvão LP Manguiera

Clinical Laboratory, Hospital Israelita Albert Einstein, Sao Paulo, Brazil (EDRPV, CAR, NSB, CLPM); Hospital Santa Cruz, Sao Paulo, Brazil (ED, DG)

Published in Atlas Database: August 2008

Online updated version : <http://AtlasGeneticsOncology.org/Reports/0517RodriguesID100039.html>
DOI: 10.4267/2042/44550

This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 2.0 France Licence.
© 2009 Atlas of Genetics and Cytogenetics in Oncology and Haematology

Clinics

Age and sex

40 years old female patient.

Previous history

No preleukemia. Previous malignancy AML in April, 2005, characterized as AML-M4 (FAB classification), BM cytogenetics with no clonal anomaly (46,XX[12]), immunophenotyping of blast cells showed positivity for CD34, HLA-DR, CD117, cMPO, CD33, CD13, CD4, CD15, CD64 and CD71. The patient was treated with Idarubicin for 3 days, and Ara-C for 7 days, with complete remission. Consolidation chemotherapy with HDARA-C was done. In September, 2005 a full-matched related bone marrow transplantation was performed, from her brother. Karyotypes performed in April and September, 2006 and September, 2007 showed a complete chimerism (//46,XY[20]). No inborn condition of note.

Organomegaly

No hepatomegaly, no splenomegaly, no enlarged lymph nodes, no central nervous system involvement.

Blood

WBC: 312X 10⁹/l

HB: 8,7g/dl

Platelets: 27X 10⁹/l

Blasts: 98%

Bone marrow: 90% myeloid/monocytic blast cells%

Cyto-Pathology Classification

Cytology: AML-M4

Immunophenotype: Blast cells positivity for: CD34, HLA-DR, CD117, cMPO, CD33, CD13, CD4, CD15, CD64 and CD71.

Rearranged Ig Tcr: Not done.

Pathology: Not done.

Electron microscopy: Not done.

Diagnosis: AML-M4 in first relapse after allogeneic BMT.

Survival

Date of diagnosis: 01-2008

Treatment: Idarubicin + ARA-C (I3A7)

Complete remission: no

Treatment related death: +

Relapse: -

Status: Dead. Last follow up: 02-2008

Survival: 1,5 months.

Karyotype

Sample: Bone Marrow

Culture time: 24 and 48- hours without stimulating agents.

Banding: G- band

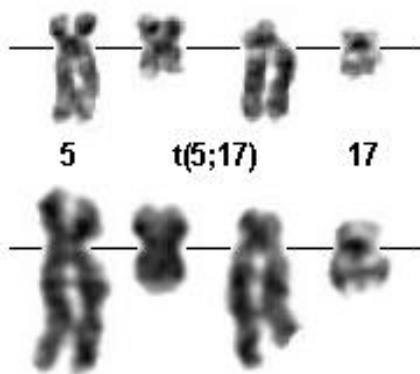
Results: 46,XX, (5;17)(q13;q21)[20]//

Karyotype at Relapse: Not applied.

Other molecular cytogenetics technics: Not done.

Other Molecular Studies

Technics: Not done.



t(5;17)(q13;q21) (G- banding).

Comments

To our knowledge, this is the third reported case of t(5;17)(q13;q21) in acute leukemia and the first described with this translocation as the sole cytogenetic anomaly.

The first case was described by Schoch in 1995, in a review concerning 17p anomalies in lymphoid malignancies. A complex karyotype including der(5)t(5;17)(q13;q21) was observed in a pre T-ALL, emerging from a T-cell NHL.

Zamora et al described in 2002, a case with this t(5;17)

and chromosome 10 monosomy in a disease classified as T-ALL. Immunophenotyping of the blast cells showed positivity for CD34, lymphoid (TdT, CD2, CD3, CD5, CD7) and myeloid (CD117, CD13, CD33) antigens. Using the scoring system proposed by the European Group for the Immunologic classification of Leukemia (EGIL classification) this disease is now classified as biphenotypic leukemia (BAL).

The present case was the first that described the t(5;17) as a sole cytogenetic anomaly in AML. Unfortunately we could not review the first karyotype to see if there was a small clone with translocation, but the finding of the same phenotype at diagnosis and relapse suggests that this could be a primary event in this leukemia. More than this, this could be a very interesting rearrangement to study, as it was found in T-ALL, BAL and AML.

References

Bene MC, Castoldi G, Knapp W, Ludwig WD, Matutes E, Orfao A, van't Veer MB. Proposals for the immunological classification of acute leukemias. European Group for the Immunological Characterization of Leukemias (EGIL). Leukemia. 1995 Oct;9(10):1783-6

Schoch C, Rieder H, Stollmann-Gibbels B, Freund M, Tischler HJ, Silling-Engelhardt G, Fonatsch C. 17p anomalies in lymphoid malignancies: diagnostic and prognostic implications. Leuk Lymphoma. 1995 Apr;17(3-4):271-9

Zamora L, Espinet B, Solé F, Salido M, Rodon N, Florensa L, Woessner S. Translocation (5;17)(q13;q21) in a case with precursor T-lymphoblastic lymphoma/leukemia. Cancer Genet Cytogenet. 2002 Jan 1;132(1):81-2

This article should be referenced as such:

Rodrigues Pereira Velloso ED, Ratis CA, Cabral E, Gonzalez D, Bacal NS, Manguera CLP. Translocation t(5;17)(q13;q21) as the sole cytogenetic anomaly in acute myeloid leukemia after chemotherapy and allogeneic bone marrow transplantation for AML-M4: a case report. Atlas Genet Cytogenet Oncol Haematol. 2009; 13(8):620-621.
