Translocation t(11;15)(q23;q14) detected in AML at first relapse

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Published in Atlas Database: April 2008
DOI: 10.4267/2042/44464
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Clinics

Age and sex
30 years male patient.

Previous history
No preleukemia. Previous malignancy 17 months before (September, 2006) an AML-M6 "de novo" (FAB) was diagnosed. Immunophenotype study showed expression of CD117,CD34, HLA-DR, CD33, CD13, CD71, CD38, CD36 and CD11c, Bone Marrow karyotype showed clonal trisomy 21 (47,XY,+21)[2]/46,XY[13]). The treatment included chemotherapy induction cycle with Idarubicin and Ara-C (3+7) and consolidation with HDDAC. In April, 2007 a hematologic and immunophenotypic remission was observed, although a karyotype showed one methaphase with trisomies 13 and 21 (48,XY,+13,+21[1]/46,XY[19]). In October, 2007, cytometry and cytogenetic bone marrow studies showed complete remission. No inborn condition of note.

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

Blood
WBC: 93X 10^9/l
HB: 9.8g/dl
Platelets: 40X 10^9/l
Blasts: 96%
Bone marrow: >90% blasts with myeloid features.

Cyto-Pathology

Classification
Cytology: AML-M1
Immunophenotype: CD 45+ gate: CD117, CD34, HLA-DR, CD33, CD13, CD71, CD38, CD36 and CD11c.
Rearranged Ig Tcr: Not done.
Pathology: Not done.
Electron microscopy: Not done.
Diagnosis: AML in first relapse.

Survival
Date of diagnosis: 02-2008
Treatment: VP16/ Mitoxantrone/Ara-C
Complete remission: None.
Treatment related death: no
Relapse: no
Phenotype at relapse: -
Status: Alive. Last follow up: 09-2008
Survival: 7months

Karyotype
Sample: Bone marrow cells.
Culture time: 24 and 48 hours without stimulating agents.
Banding: G
Results: 46,XY,t(11;15)(q23;q14)[20]
Karyotype at Relapse: Not applied.
Other molecular cytogenetics technics:
FISH (bone marrow, LSI MLL Dual Color, Break Apart Rearrangement Probe, Vysis)

Other molecular cytogenetics results:
nuc ish(MLLx2)[100]

Other Molecular Studies

Technics:
Not done.

Comments
Translocation t(11;15)(q23;q14) have been described in few cases of acute leukemia, including ALL2 and AML 1,3,4,7.
Although rare, molecular studies have demonstrated the diversity of this cytogenetic abnormality, and MLL gene rearrangement could be or not detected 2,5. When it is present, two different genes could be fused to MLL (AF15q14 and MPFYVE) 6,7. We described herein a t(11;15)(q23;q14) without MLL rearrangement in AML at first relapse. As this translocation was not detected at diagnosis, we could not discard the implication of previous chemotherapy in this cytogenetic abnormality.

References


Chinwalla V, Chien A, Odero M, Neilly MB, Zeleznik-Le NJ, Rowley JD. A t(11;15) fuses MLL to two different genes, AF15q14 and a novel gene MPFYVE on chromosome 15. Oncogene. 2003 Mar 6;22(9):1400-10


Gameiro S, Boivin J, Canavarro MC, Moura-Ramos M, Soares I. Social nesting: changes in social network and support across the transition to parenthood in couples that conceived spontaneously or through assisted reproductive technologies. J Fam Psychol. 2010 Apr;24(2):175-87

This article should be referenced as such: