A new case of translocation t(14;14)(q11;q32) in B lineage ALL

Elvira D Rodrigues Pereira Velloso, Priscila Pereira dos Santos Teixeira, Karina Prandi Melillo, Luciana J Rodrigues da Silva, Cristina Alonso Ratis, Daniela Borri, Cristóvão LP Mangueira

Clinical Laboratory, Hospital Israelita Albert Einstein, Sao Paulo, Brazil (EDR PV, PPdST, LJRdS, CAR, DB, CLPM); CASE Intermedica, Sao Paulo, Brazil (KPM)

Published in Atlas Database: February 2011
Online updated version: http://AtlasGeneticsOncology.org/Reports/t1414BALLVellosoID100048.html
DOI: 10.4267/2042/46023
This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 2.0 France Licence. © 2011 Atlas of Genetics and Cytogenetics in Oncology and Haematology

Clinics

Age and sex
43 years old male patient.

Previous history
no preleukemia ; no previous malignancy ; no inborn condition of note.

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

Blood
WBC : 227 $\times$ 10^9/l
HB : 5,9g/dl
Platelets : 51X 10^9/l
Blasts : 12%
Bone marrow : aspirate: 90% lymphoblast%

Cyto-Pathology

Classification

Cytology
LLA-L2

Immunophenotype
HLA-DR+, TdT+, CD79a+, CD19+, cyCD22+, CD20+, CD10+

Rearranged Ig Tcr
rearranged IGH (FISH)

Pathology
not done

Electron microscopy
not done

Diagnosis
common B-ALL

Survival

Date of diagnosis: 02-2009
Treatment: Cancer and Leukemia Group B (CALGB) protocol
Complete remission: not evaluated
Treatment related death: Neutropenia and lung infection
Relapse: no
Status: Death. Last follow up: 03-2009
Survival: 20 days

Karyotype

Sample: Bone marrow
Culture time: 24 and 48 hours without stimulating agents

Banding: G
Results: 46,XY,t(14;14)(q11;q32.1)[20]
Karyotype at Relapse: not done

Other molecular cytogenetics technics
FISH using IGH Break Apart Rearrangement Probe, Vysis

Other molecular cytogenetics results
nuc ish(IGHx2)(5'IGH sep 3'IGHx1)[154/200]/(5'IGHx2,3'IGHx1)(5'IGH con 3'IGHx1)[33/200]
Comments

Translocation t(14;14)(q11;q32) in B lineage acute lymphoblastic leukemia was described in few cases, some of them associated with other recurrent rearrangements such as t(4;11) and t(8;14). Lui et al, in 2004 showed IGH rearrangement in two cases, although the partner was unknown. Akasaka et al in 2007, described CEBPE involvement in a patient with B-ALL and t(14;14)(q11;q32). In 2008, Han et al showed through FISH analysis the presence of trisomy 4 as a simultaneous involvement of IGH and CEPBE genes. The t(14;14)(q11;q32) CEBPE/IGH may be associated with good prognosis in B-ALL. In 4 cases with clinical follow-up, complete remission was achieved and those were alive at the time of report. In the case described herein, the t(14;14) was the sole anomaly, IGH rearrangement was detected but CEBPE involvement was not studied. This patient has well known bad prognostic features as high WBC count and CNS involvement and died few days after diagnosis.

References


This article should be referenced as such: