

Case Report Section

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Chronic lymphocytic leukaemia/Small lymphocytic lymphoma (CLL/SLL) associated with translocation t(1;6)(p35;p25) as part of complex karyotype

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Clinics

Age and sex

64 years old male patient.

Previous history

No preleukemia, previous malignancy Chronic lymphocytic leukaemia/Small lymphocytic lymphoma (CLL/SLL) diagnosed 19 months earlier, in first relapse after 4 cycles of RFC (Fludarabine, cyclophosphamide and Rituximab), no inborn condition of note.

Organomegaly

No hepatomegaly, no splenomegaly, enlarged lymph nodes (diffuse lymphadenopathy), no central nervous system involvement

Blood

WBC : $1.5 \times 10^9/l$

HB : 10.3g/dl

Platelets : $52 \times 10^9/l$

Bone marrow : Aspirate and immunophenotype study: 69.8% lymphoid cells, CD19+, CD5++, CD11c+, CD23++, cyIgM+, cylambda+.

Cyto-Pathology Classification

Immunophenotype

Small lymphocytic lymphoma/chronic lymphocytic leukemia (SLL/CLL)

Rearranged Ig Tcr

Not done

Pathology

Lymph node biopsy showed SLL/CLL, CD20, CD23, CD5, CD43 and BCL2 positive; CD10 and Cyclin D1 negative and Ki-67 positive in 25% of neoplastic cells.

Electron microscopy

Not done

Diagnosis

Chronic lymphocytic leukaemia/Small lymphocytic lymphoma (CLL/SLL) with high Ki-67 index.

Survival

Date of diagnosis: 03-2010

Treatment: Bendamustine +Rituximab (2 cycles).

Complete remission : no

Treatment related death : +

Status : Dead; Last follow up 07-2010.

Survival: 4 months

Karyotype

Sample: bone marrow cells.

Culture time: 72 hours with TPA (o-tetradecanoyl phorbol-13-acetate).

Banding: G

Results:

(using ISCN): 44,XY, t(1;6)(p35;p25), der(4)(q21), -9, add(17)(p13), -21, +mar[6]/46,XY[14]

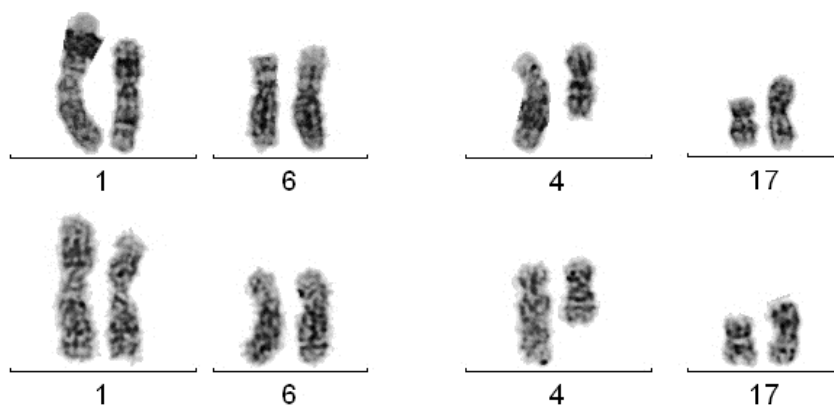
Karyotype at Relapse: not done

Other molecular cytogenetics technics:

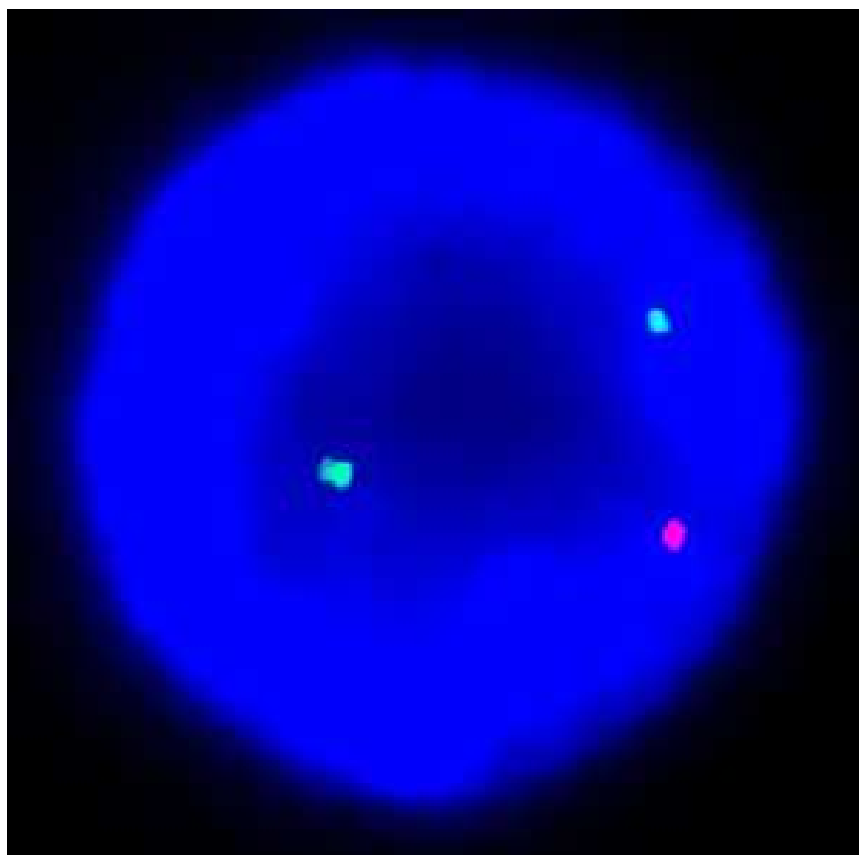
Fish using deletion probe XLP53 (MetaSystems) confirms 17p13/P53 locus deletion nuc ish(D17Z1x2,p53x1)[76/100]

Other Molecular Studies

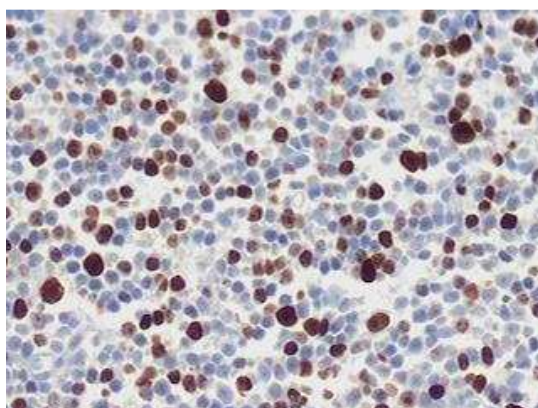
Technics: not done



Partial karyotypes, G- bands, showing the t(1;6)(p35;q21), del(4)(q21), and add(17)(p13).



Fish interphase study using probes D17Z1 (green) and p53 (orange) showing 2 green signals and 1 orange signal, confirming p53 deletion.



Ki-67 immunostaining in lymph node at time of t(1;6) detection.

Comments

Until now, 16 patients with CLL and t(1;6)(p35;p25) were described. 8 of these patients were described by Michaux et al. in 2005, showing that this rearrangement was associated with bad prognosis: unmutated B-CLL and evolution to diffuse large B-cell Lymphoma (DLBCL). Our group also described in 2007 a case of atypical CLL with evolution to aggressive B-cell Lymphoma. In the case reported herein, clinical and pathological evolution was associated with the detection of t(1;6) as part of complex karyotype including deletion of p53. Although no transformation to DLBCL was seen, increase in proliferation rate in lymph node biopsy (Ki-67 increase from less than 10 to 25%) was detected, associated with bad prognosis and short survival.

References

Michaux L, Wlodarska I, Rack K, Stul M, Criel A, Maerevoet M, Marichal S, Demuyneck H, Mineur P, Kargar Samani K, Van Hoof A, Ferrant A, Marynen P, Hagemeijer A. Translocation

t(1;6)(p35.3;p25.2): a new recurrent aberration in "unmutated" B-CLL. *Leukemia*. 2005 Jan;19(1):77-82

Rodrigues Pereira Velloso ED, Ratis C, Brasil SAB, Guerra JC, Bacal N, Pitangueira CPMLM.. Translocation t(1;6)(p35;p25) in B-cell lymphoproliferative disorder with evolution to Diffuse Large B-cell Lymphoma. *Atlas Genet Cytogenet Oncol Haematol*. July 2007. URL : <http://AtlasGeneticsOncology.org/Reports/0106RodriguesID100030.html>

Van Den Neste E, Robin V, Francart J, Hagemeijer A, Stul M, Vandenberghe P, Delannoy A, Sonet A, Deneys V, Costantini S, Ferrant A, Robert A, Michaux L. Chromosomal translocations independently predict treatment failure, treatment-free survival and overall survival in B-cell chronic lymphocytic leukemia patients treated with cladribine. *Leukemia*. 2007 Aug;21(8):1715-22

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