Case Report Section

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**t(1;21)(p32;q22) as a non-random abnormality in AML M4**

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**Clinics**

**Age and sex**
63 years old female patient.

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

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

**Blood**

- **WBC**: 3.980X 10^9/l
- **HB**: 7.9g/dl
- **Platelets**: 64.000X 10^9/l
- **Blasts**: 48.5%

**Cyto-Pathology Classification**

**Cytology**
(FAB) AML M4.

**Immunophenotype**
Hypercellular bone marrow showed a myelomonocytic blast population. 49.5% blasts were detected in total bone marrow. 30% of the cells were clearly EST positive.

Furthermore POX was positive, no ringsiderobalsts were found and erythropoiesis showed dysplasia. Myelomonocytic cells with MPO+ (48%), CD13+ (17%), CD33+ (63%), CD14 (19%) and CD64 (37%).

**Diagnosis**
AML M4

**Survival**

**Date of diagnosis**: 06-2008
**Treatment**: None
**Complete remission**: no
**Treatment related death**: no
**Relapse**: no
**Status**: Lost

**Karyotype**

**Sample**: bone marrow
**Culture time**: 24 - 48h
**Banding**: GAG.
**Results**: 46,XX,t(1;21)(p32;q22)[15/15].

**Other molecular cytogenetics technics**: FISH with commercial AML1 probe (Abbott) and whole chromosome painting with WCP#1 and WCP#21 (MetaSystems).

**Other molecular cytogenetics results**: 40% of cells with AML1-split.

**Other Molecular Studies**

**Technics**: PCR
**Results**: Tandem duplication of MLL gene (MLL-PTD positive).
Partial GTG-banding karyotype showing t(1;21)(p32;q22).

FISH and whole chromosome painting of the same metaphase with t(1;21)(p32;q22); Left picture: AML1 probe on metaphase; Right picture: whole chromosome painting, WCP#1 green, WCP#21 red.

**Comments**

Only two cases with t(1;21)(p32;q22) were described so far in literature. The first reported case is a 25-year-old male with an acute myelomonocytic leukemia (M4 by FAB subtype) (Cherry et al., 2001). The second patient, a 29-year-old Japanese male, showed an acute myelogenous leukemia M4 with NUP98-HOXA9 fusion detected by PCR at the initial diagnosis. In relapse he acquired additional to the NUP98-HOXA9 fusion a t(1;22)(p32;q22) (Aoki et al., 2008). The here reported case is a 63-year-old female with an acute myeloid leukemia (M4 by FAB subtype). So far the cases have the same morphology in common. Correlations to age or sex cannot be determined yet.

**Call for Collaborations**

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**References**


This article should be referenced as such: