Atlas of Genetics and Cytogenetics in Oncology and Haematology

OPEN ACCESS JOURNAL AT INIST-CNRS

Leukaemia Section

Short Communication

t(11;14)(q13;q32) in multiple myeloma

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Published in Atlas Database: January 1998

Online version is available at: http://AtlasGeneticsOncology.org/Anomalies/t1114MM.html
DOI: 10.4267/2042/32110

Clinics and pathology

Disease

Multiple myeloma (MM) is a malignant plasma cell proliferation.

Phenotype / cell stem origin

Phenotype of mature differentiated B-cell, but also with CD56 expression, which is not found in normal plasma cells.

Epidemiology

Multiple myeloma's annual incidence: $30/10^6$; mean age: 62 yrs; t(11;14) is found in 10-20% of cases of MM with an abnormal karyotype; t(11;14) is not found associated with particular sex or age group; found mostly in stage III MM.

Clinics

Bone pain; susceptibility to infections; renal failure; neurologic dysfunctions.

Pathology

MM staging:
- Stage I: low tumour cell mass; normal Hb; low serum calcium; no bone lesion; low monoclonal Ig rate;
- Stage II: fitting neither stage I nor stage II;
- Stage III: high tumour cell mass; low Hb and/or high serum calcium and/or advanced lytic bone lesions and/or high monoclonal Ig rate.

Prognosis

Evolution: multiple myeloma can evolve towards plasma cell leukaemia;
Prognosis (highly variable) is according to the staging and other parameters, of which are now the karyotypic findings.

Cytogenetics

Cytogenetics, morphological

t(11;14) is balanced in most cases; some cases are: -14, +der(14)t(11;14); t(11;14) may well be a secondary event in MM, lsas it has been found occurring during course of the disease.

Cytogenetics, molecular

FISH is indicated, as metaphases are arduous to obtain in such a disease implicating mature cells.

Additional anomalies

t(11;14) is part of a complex karyotype; accompanied with -13 or del(13q) in 'only' 1/4 of cases while -13/del(13q) is found in about 40% of MM cases with an abnormal karyotype; structural (and variable) anomalies of chromosome 1 are found in 1/3 of cases with t(11;14).

Variants

Complex three way translocations t(11;Var;14) have been described.

Genes involved and Proteins

BCL1

Location: 11q13

IgH

Location: 14q32

References

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This article should be referenced as such:

Huret JL, Laï JL. t(11;14)(q13;q32) in multiple myeloma. Atlas Genet Cytogenet Oncol Haematol.1998;2(1):34.