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Leukaemia Section
Short Communication

t(7;14)(q22;q11)

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Identity

Alias: der(7)t(7;14)

Clinics and pathology

Disease

Observed in 3 cases of ANLL (one specified as secondary AML- M2, other 2 cases not specified), in one case as sole anomaly (subclone with trisomy 8 also).

Phenotype/cell stem origin

Presumably myeloid.

Epidemiology

Uncommon; all 3 reported cases were elderly (ages 62, 63, 70; two female and one male).

Cytogenetics

Cytogenetics morphological

Since only der(7) was seen in 2/3 cases, this is likely the critical juncture of the translocation. Breakpoint on 7q may in fact be 7q31 (by FISH) but appears to be q22 by limited G-band analysis; 14 breakpoint is near centromere but not clearly defined by G-banding.

Cytogenetics molecular

First identified as a recurrent abnormality by spectral karyotyping (SKY). The 7q breakpoint may be slightly more distal than indicated by G-bands (q22). FISH with commercial probe for D7S486 and D7S522 (7q31, control region probe for Williams Syndrome) in one case showed signal retained on der(7), suggesting breakpoint distal to this location.

Additional anomalies

In all 3 cases, +8 was seen in at least a subclone. In the 2 cases with complex karyotypes, only the der(7) was seen, and -5 or der(5) was also present.

Genes involved and proteins

Note
Unknown at present.

Result of the chromosomal anomaly

Hybrid gene

Note
Critical region is likely on the der(7) if a fusion gene, or, the critical event may be loss of region distal to 7q22/q31 and the translocation with 14 be only a mechanism for accomplishing the loss.

References

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