

Images in Clinical Hematology

Jumping translocation: an unusual cytogenetic finding in myeloid neoplasm



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Bone marrow karyotype of 86-year-old woman with myelofibrosis evolution from essential thrombocythemia showed unbalanced translocation involving chromosome 1 and acrocentric chromosomes 14, 15 and 22 (Figure 1), configuring the phenomenon of Jumping translocation (JT). Twenty metaphases showed: 46,XX,der(14)t(1;14)(q12;p11.2)[11]/46,

XX,der(22)t(1;22)(q12;p11.2)[3]/46,XX,der(15)t(1;15)(q12;p11.2)[2]/46,XX[4].

JT is a rare cytogenetic aberration that occurs when a donor segment chromosome breaks off and merges into two or more receptor chromosomes, resulting in an unbalanced translocation with gain of the donor chromosome

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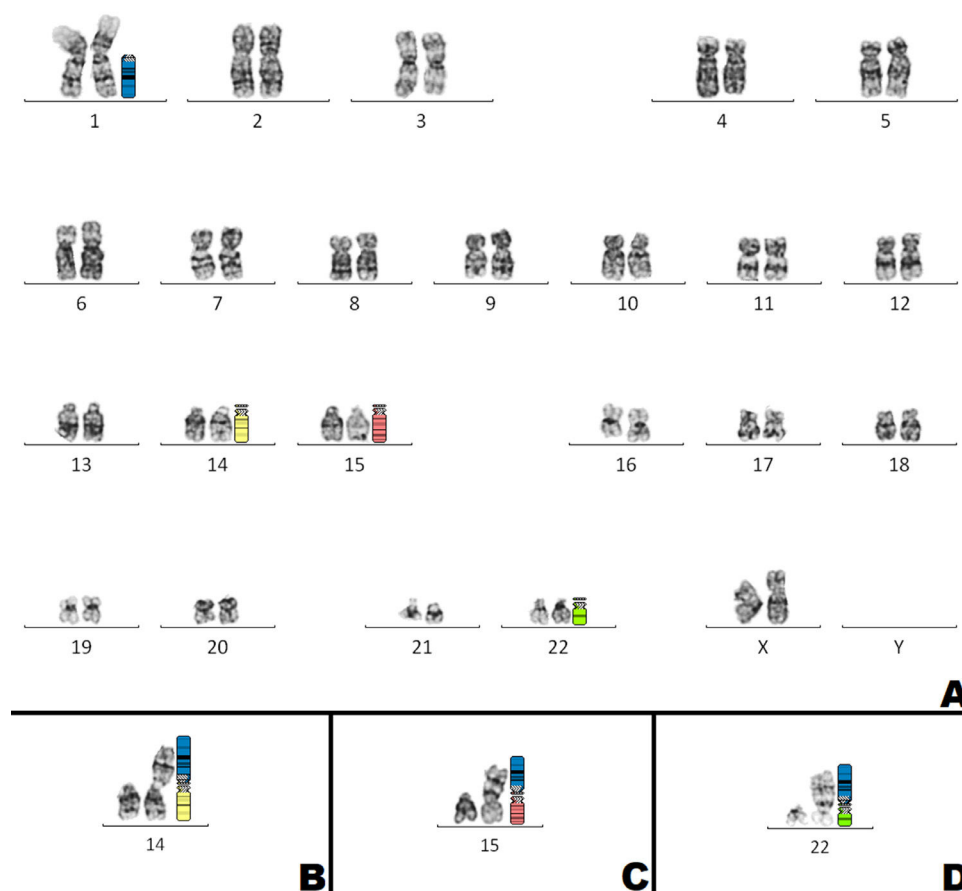


Figure 1 – A-G- banding Karyotype, showing ideogram of 1q in blue, 14q in yellow, 15q in red and 22q in green. B-Partial Karyotype with normal chromosome 14, der(14)t(1;14)(q12;p11.2) and schematic model blue/yellow of der(14). C- Partial Karyotype with normal chromosome 15, der(15)t(1;15)(q12;p11.2) and schematic model blue/red of der(15). D- Partial Karyotype with normal chromosome 22, der(22)t(1;22)(q12;p11.2) and schematic model blue/green of der(22).

segment.¹ This phenomenon shows genetic instability, despite not being associated with other chromosomal abnormalities and is associated with an unfavorable prognosis in myeloid neoplasms.² Among the chromosomal gains, the most frequent is the partial trisomy 1q, as in the case described.

Conflicts of interest

The authors declare no conflicts of interest.

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