**+3 or trisomy 3 in non Hodgkin's lymphoma (NHL)**

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**Clinics and pathology**

**Disease**

Trisomy 3 occurs more frequently in T-cell lymphomas than in B-cell lymphomas.

Globally, 20-30% of T-NHL may carry trisomy 3, the highest incidence having been noted in lymphoepithelioid lymphoma, in low-grade peripheral T-cell lymphoma, in angioimmunoblastic lymphadenopathy and in adult T-cell leukemia-lymphoma.

Trisomy 3 is relatively rare in B-NHL, with the exception of marginal zone lymphomas (MZL) and mantle cell lymphoma (MCL); in MZL, total or partial trisomy 3 may occur in 50-70% of cytogenetically abnormal cases, with a reported incidence by interphase FISH in the 50-85% range; the incidence does not appear to vary according to the clinicopathologic features, with similar frequency in the extra-nodal MALT lymphoma, in the nodal and the splenic form of MZL; trisomy 3/3q was reported in 10-15% of MCL with an higher incidence (up to 40%) by molecular cytogenetic techniques; sporadically, other low-grade and high grade B-lymphoid tumors may carry trisomy 3/3q.
Prognosis

The prognostic significance of trisomy 3 in T-cell and B-cell lymphomas is unknown; there does not appear to be a role for trisomy 3 in tumor progression from low-grade MALT lymphoma to the high grade form, whereas gains of 3q may be associated with the aggressive blastoid variant of MCL.

Cytogenetics

Cytogenetics morphological

Trisomy 3 may be total or partial; commonly overrepresented segments in partial trisomy 3 include the q21-23 region and the q25-29 region; total/partial trisomy 3 may occur as an isolated anomaly in a minority of cases.

Cytogenetics molecular

The anomaly is readily detectable by G- and R-banding in most cases; however, FISH using a centromeric probe is more sensitive than conventional cytogenetics, allowing for the study of non-dividing cells and for the detection of partial trisomy in complex karyotypes with marker chromosomes.

Genes involved and proteins

Note

The gene(s) involved in the transformation process by gene dosage effect or by other mechanisms are not known.

References


This article should be referenced as such: