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Titel des Beitrags: Differential diagnosis of cyclin D2+ mantle cell lymphoma based on fluorescence in situ hybridization and quantitative real-time-PCR.

Abstract: Mantle cell lymphoma is characterized by the t(11;14) chromosomal translocation, resulting in the overexpression of cyclin D1 (CycD1). Recently, cases of mantle cell lymphoma negative for cycD1 but positive for cycD2 or cycD3 were identified by gene expression profiling and confirmed by immunohistochemistry. We analyzed 4 cases of cycD2(+) mantle cell lymphoma with a translocation involving the CCND2 locus, and its differential diagnosis from 35 mature B-cell non-Hodgkin's lymphomas based on immunohistochemistry, quantitative RT-PCR and FISH analysis. Bona fide cycD2(+) mantle cell lymphoma carried translocations involving the CCND2 gene, and IGH and IGK loci were identified as partners. As a result of this translocation, cycD2 mRNA was highly over-expressed when compared with normal lymphoid tissue and other B-cell non-Hodgkin’s lymphomas, including chronic lymphocytic leukemia, making this technique ideally suited to identify cycD2(+) mantle cell lymphoma. In contrast, positive immunostaining for cycD2 was found in most B-cell non-Hodgkin’s lymphomas, and therefore, it is not specific for a diagnosis of cycD2(+) mantle cell lymphoma.

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