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The malignant clone in Waldenstrom's macroglobulinemia.

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The unique IgM VDJ sequence that characterizes the malignant clone in Waldenstrom's macroglobulinemia (WM), termed clonotypic, was identified for 12 WM patients. The majority of WM patients (92%) had a clonotypic IgM from the VH3 family, with predominantly long CDR3 regions, characteristic of those found in antigen-stimulated populations. Clonotypic IgM transcripts were detected in both blood and bone marrow (BM), clearly identifying a blood-borne compartment of WM. Abnormal numbers of CD20(+) B cells were usually detectable and expressed surface IgM. In most cases these cells also expressed surface IgD. Most WM patients lacked detectable CD138(+) plasma cells in either blood or BM. Longitudinal analysis suggests that phenotypic identification of B cells in blood of WM patients is insufficient for monitoring disease. Although serum IgM had decreased and clonotypic transcripts were very weak for one patient, the number of CD20(+) B cells increased dramatically. The lack of clonotypic transcripts suggests that the majority of these circulating B cells were polyclonal and were not part of the WM clone, indicating that monitoring of clonotypic IgM provides the most accurate identifier of WM cells. Copyright 2003 Elsevier Inc. All rights reserved.