**Clin Lymphoma. 2005 Mar;5(4):246-9.**

# CD5, CD10, and CD23 expression in Waldenstrom's macroglobulinemia.

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CD5, CD10, and CD23 are cell surface antigens used to distinguish B-cell disorders. The expression of these antigens and their clinical significance in Waldenstrom's macroglobulinemia (WM), an uncommon B-cell disorder, remains to be clarified. We therefore determined expression of CD5, CD10, and CD23 by flow cytometric analysis on bone marrow lymphoplasmacytic cells (CD19+ k/l light chain restricted) for 171 serially biopsied patients with findings of the consensus panel definition of WM. Importantly, we also correlated laboratory and clinical data, as well as existence of a familial history of a B-cell disorder in view of reports suggesting familial predisposition in WM. These studies demonstrated tumor cell expression of CD5, CD10, and CD23 in 15 of 171 patients (9%), 11 of 161 patients (7%), and 37 of 105 patients (35%), respectively. Coexpression of CD23 with CD5 or CD10 was common. Tumor Lymphoplasmacytic from 10 of 15 (66%) and 3 of 11 (27%) patients with WM that expressed CD5 and CD10, respectively, also showed expression of CD23 ($P = 0.01$ and $P = 0.08$, respectively). Among patients with CD23 expression, increased serum immunoglobulin (Ig) M levels were observed compared with patients without CD23 expression ($P = 0.05$). No differences in age at diagnosis; presence of adenopathy and/or splenomegaly; bone marrow involvement; serum IgA, IgB, and b2 macroglobulin levels; hematocrit; platelet count; or familial history of WM or a related B-cell disorder were observed among patients with and without CD5, CD10, and CD23 expression. These studies demonstrate that CD5, CD10, and CD23 are commonly found in WM and that their expression should not exclude the diagnosis of WM. Moreover, expression of CD23 may define a clinically distinct subset of patients with WM.