

[Abstract 55]

HETEROGENEOUS EXPRESSION OF CD5, CD10, AND CD23 IN WALDENSTROM'S MACROGLOBULINEMIA.

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Background: Waldenstrom's macroglobulinemia (WM) is a B-cell malignancy, recently established by a consensus panel to be represented by the underlying WHO/REAL pathological diagnosis of IgM secreting lymphoplasmacytic lymphoma (Semin Oncology 30:110, 2003). The expression of CD5, CD10, and CD23 in WM remains controversial, and confusion with other B-cell malignancies has often resulted. **Methods:** We examined the expression of CD5 (L17F12 mAb), CD10 (J5 mAb), and CD23 (EBVCS-5 mAb) by multicolor flow cytometry on bone marrow lymphoplasmacytic lymphoma cells (CD19⁺, LC restricted) taken from patients with a consensus panel defined diagnosis of WM, and correlated these findings with important clinical and laboratory features at presentation.

Results: Antigen expression was as follows: CD5 (10.7%; N=103); CD10 (10.1%; N=89); and CD23 (20%; N=60). No significant differences in age, serum IgM, serum viscosity, and beta 2 microglobulin levels, as well as complete blood counts were observed in patients with and without expression of CD5, CD10, or CD23 at the time of initial presentation. However, increased bone marrow (BM) involvement by tumor cells was observed among patients expressing CD10 (55% vs. 30%; p=0.01), who also displayed more pronounced IgG (505 vs. 661 mg/dL; p=0.01) and IgA (40 vs. 59 mg/dL; p=0.0001) hypoglobulinemia. A trend for greater BM involvement (40% vs. 20%; p=0.11), as well as more pronounced IgA hypoglobulinemia (32 vs. 55 mg/dL; p=0.01) was also observed among patients with CD23⁺ disease. Patients with CD10, but not CD5, or CD23 expression also had a higher incidence of familial disease, defined as having a first degree relative with WM or a closely related B-cell disorder (55.5% vs. 25%; p=0.10).

Conclusions: These data suggest that CD5, CD10, and CD23 are commonly expressed antigens in WM, and their presence should not exclude the diagnosis of WM. Moreover, expression of CD10 or CD23 may have important clinical implications, and define a subset of WM.