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CD20-Directed Antibody-Mediated Immunotherapy Induces Responses and Facilitates Hematologic Recovery in Patients With Waldenstrom's Macroglobulinemia.

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SUMMARY: Waldenstrom's macroglobulinemia (WM, lymphoplasmacytic lymphoma) is a B-cell lymphoproliferative disorder in which CD20 is expressed on tumor cells from most patients. Several small studies have suggested a benefit from the anti-CD20 monoclonal antibody rituximab (Rituxan, MabThera) in patients with WM. In this retrospective study, we examined the outcome of 30 previously unreported patients with WM who received treatment with single-agent rituximab (median age 60; range 32-83 years old). The median number of prior treatments for these patients was 1 (range 0-6), and 14 patients (47%) received a nucleoside analogue before rituximab therapy. Patients received a median of 4.0 (1-11.3) infusions of rituximab (375 mg/m²). Three patients received steroids with their infusions for prophylaxis of rituximab-related infusion syndrome. Overall, treatment was well tolerated. Median immunoglobulin M (IgM) levels for all patients declined from 2,403 mg/dL (range 720-7639 mg/dL) to 1,525 mg/dL (range 177-5,063 mg/dL) after rituximab therapy ($p = 0.001$), with 8 of 30 (27%) and 18 of 30 (60%) patients demonstrating >50% and >25% decline in IgM, respectively. Median bone marrow lymphoplasmacytic (BM LPC) cell involvement declined from 60% (range 5-90%) to 15% (range 0-80%) for 17 patients for whom pre-and post-BM biopsies were performed ($p < 0.001$). Moreover, 19 of 30 (63%) and 15 of 30 (50%) patients had an increase in their hematocrit (HCT) and platelet (PLT) counts, respectively. Before rituximab therapy, 7 of 30 (23.3%) patients were either transfusion or erythropoietin dependent, whereas only 1/30 (3.3%) patients required transfusions (no erythropoietin) after rituximab. Overall responses after treatment with rituximab were as follows: 8 (27%) and 10 (33%) of the patients achieved a partial (PR) and a minor (MR) response, respectively, and an additional 9 (30%) of patients demonstrated stable disease (SD). No patients attained a complete response. The median time to treatment failure for responding (PR and MR) patients was 8.0 months (mean 8.4; range 3-20+ months), and 5.0 months (mean 6.1; range 3-12+ months) for patients with SD. These studies therefore demonstrate that rituximab is an active agent in WM. Marked increases in HCT and PLT counts were noted for most patients, including patients with WM who had MR or SD. A prospective clinical trial to more completely define the benefit of single-agent rituximab in patients with WM has been initiated by many of our centers.