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Central Nervous System Involvement in Polymorphocytic Transformation of Chronic Lymphocytic Leukemia

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This is in reference to a report of a case of polymorphocytic transformation of chronic lymphocytic leukemia (CLL) with meningeal involvement by Lopez Guillermo et al. [1]. We report another case, but with a very different outcome.

A 67-year-old white male with a diagnosis of CLL made 2 months earlier presented to our institution in December 1988 with increasing WBC ($119 \times 10^9/l$), fever and night sweats after having failed chlorambucil and prednisone. A review of the aspirate done at diagnosis was consistent with typical CLL with 75 % mature lymphocytes. A repeat aspirate in December 1988 revealed that 30 % of lymphocytes in the bone marrow were of polymorphocytoid morphology. Flow cytometry revealed: 46% CD5, 19% CD3, 56% CD19, 61% CD20, 30% CD22, 85% lambda, 39% kappa, 57% IgG, 89% IgM, 63% IgA, 57% HLADr and 18 % CD10. A monoclonal IgM lambda spike was noted in the serum; immunoglobulin quantitation revealed IgG of 910 mg/dl, IgM of 1,857 mg/dl and IgA of 131 mg/dl. The patient was treated with cytarabine, vincristine, adriamycin and prednisone with normalization of the WBC and disappearance of splenomegaly, hepatomegaly and lymph node enlargement. His disease recurred in June 1989, however, with a WBC of $182 \times 10^9/l$ (of which 60 % were polymorphocytes and 20 % were mature looking lymphocytes) and weakness of the lower extremities. A myelogram revealed no evidence of a block but the cerebrospinal fluid (CSF) analysis showed 2,600 WBCs/mm³, 0 RBC, protein 68 mg/dl and glucose 58 mg/dl; 98 % of the cells were large polymorphocytoid cells. A CT scan of the head was negative. A repeat bone marrow examination revealed 87% polymorphocytoid cells. Flow cytometry revealed: 15 % CD5, 2% CD3, 55 % CD19, 83% CD20, 16%

CD22, 86% HLA Dr, 85% lambda, 9% kappa, 19% IgG, 90% IgM and 86% IgA. An IgM lambda monoclonal protein was again detected in the serum. The patient received intrathecal methotrexate and Ara-C, but without clearing of the CSF. Deep vein thrombosis, abdominal bleeding and renal failure developed and the patient expired 9 months after his diagnosis. Meningeal involvement is a very rare complication of chronic lymphocytic leukemia [2-5] and polymorphocytic leukemia [6]. Two previous case reports exist of polymorphocytic transformation involving the meninges [1, 7], but with rapid clearing of the CSF. While we do not have phenotype analysis of the malignant cells in the CSF, the clinical picture and morphology strongly suggest the cells in the CSF were indeed polymorphocytic cells. This case contrasts with that of Lopez Guillermo et al. [1] where clearing of the CSF occurred after 2 doses of intrathecal

methotrexate and Ara-C, as well as an earlier case report. The response of our patient was poor and intrathecal therapy failed to eradicate tumor cells.

References

Lopez Guillermo A, Cervantes F, Blade J, Ma-tutes E, Urbano A, Montserrat E, Rozman C: Central nervous system involvement demonstrated by immunologic study in prolympho-cytic variant of chronic lymphocytic leukemia. *Acta Haematol* 1989;81:109-111.

Getaz EP, Miller GJ: Spinal cord involvement in chronic lymphocytic leukemia. *Cancer* 1979;43:1858-1861

Liepmann MK, Votaw ML: Meningeal leukemia complicating chronic lymphocytic leukemia. *Cancer* 1981;47:2482-2484.

Cash J, Fehrl KM, Pollack MS: Meningeal involvement in early stage chronic lymphocytic leukemia. *Cancer* 1987;59:798-800.

Stagg MP, Gumbart CH: Chronic lymphocytic leukemic meningitis as a cause of the syndrome of inappropriate secretion of antidiuretic hormone. *Cancer* 1987;60:191-192.

Kernoff LM, Coghlan PJ: Prolymphocytic leukaemia with leukaemic meningitis and extra-lymphoid tumors. *S Afr Med J* 1983;64:290-292.

Gobbi M, Tazzari PL, Raspadori D, Cavo M, Pileri S, Tura S: Meningeal leukemia complicating prolymphocytoid transformation of B-chronic lymphocytic leukemia. *Acta Haematol* 1985;74:205-207.

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