B-Cell Prolymphocytic Leukemia With t(8;14) Translocation
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B-cell prolymphocytic leukemia remains a controversial entity, and its molecular pathogenesis is unknown. We identified a 62-year-old woman who presented with weight loss and abdominal pain. She was found to have massive splenomegaly (26 cm) and lymphocytosis (30.5 K/cu mm). The lymphocytes were mature with a moderate amount of basophilic cytoplasm and prominent nucleoli, which are typical features of prolymphocytes. A bone marrow biopsy was performed. The biopsy revealed a hypercellular marrow (70%) with nodular and paratrabecular infiltrates of small lymphocytes and few larger cells. Immunohistochemistry (IHC) and flow cytometric analysis were performed with panels of B-cell and T-cell markers. FISH with fusion probes for t(8;14)(MYC;IGH), t(11;14)(CCD1;IGH), and t(14;18)(BCL2;IGH) and FISH with break-apart probes for Myc and Bcl-6 were also used to characterize this B-cell leukemia/lymphoma. The lymphoma cells were positive for CD5, CD20, and Bcl-2 with low Ki-67 activity (<30%) and negative for CD10, CD23, cyclin D1, CD34, and TDT. FISH was positive for a t(8;14) MYC rearrangement, but no aberrations involving BCL2 or CCND1 were identified. Burkitt lymphoma was ruled out owing to the lack of morphologic features and low Ki-67 activity. CD5/CD20 coexpression is not a typical immunophenotypic feature of splenic marginal zone B-cell lymphoma. The differential diagnoses remained transformed chronic lymphocytic leukemia (CLL) and prolymphocytic leukemia. Since the patient had no history of CLL, transformed CLL was thought to be unlikely, further supported by negative CD23. Other diagnoses associated with a MYC translocation were ruled out on morphologic grounds. Literature review reveals rare cases of t(8;14) in prolymphocytic leukemia and transformed CLL. The optimal treatment option for B-cell prolymphocytic lymphoma with t(8;14) is not clear. This case supports the existence of B-PLL as a rare variant of B-cell lymphoproliferative disease and expands the list of neoplasms in which MYC translocations can be identified.

Category:
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