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Myelodysplastic syndrome with occult diffuse large B-cell lymphoma

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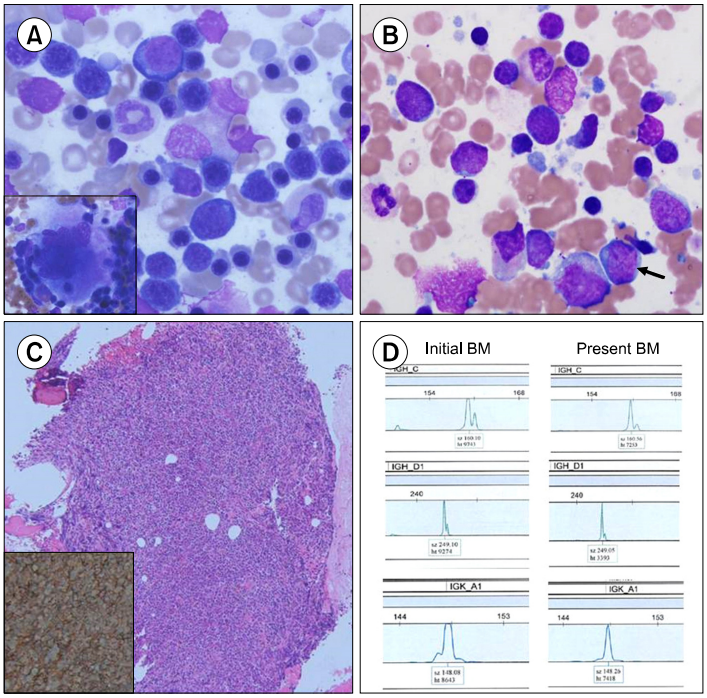

A 71-year-old woman was admitted with dyspnea and generalized weakness. Twenty months prior, she had been diagnosed with myelodysplastic syndrome (MDS) with multilineage dysplasia. (**A**, Bone marrow (BM) aspiration, Wright-Giemsa stain, ×1,000). She was given eight cycles of azacitidine chemotherapy with regular follow-up. On admission, complete blood count revealed pancytopenia with a hemoglobin (Hb) level of 4.9 g/dL, white blood cell (WBC) count of 2.54×10^9/L (32% neutrophils, 43% lymphocytes, and 25% monocytes), and platelet count of 7×10^9/L. The BM examination showed hypercellularity with lymphoid hyperplasia. (**B**, BM aspiration, Wright-Giemsa stain, ×1,000, black arrow; **C**, BM biopsy, Hematoxylin and eosin stain, ×100). Flow cytometric analysis showed increased number of B lymphocytes expressing CD19, CD20 and CD22. Immunohistochemistry of the BM biopsy revealed neoplastic cells positive for CD20 (**C**, lower left inset) and MUM-1, and negative for CD23, bcl-2, bcl-6 and cyclin D1. This was consistent with BM involvement in diffuse large B-cell lymphoma (DLBCL). Cytogenetic analysis revealed that normal karyotype at initial BM was changed to trisomy 3 in 11/20 metaphases. Clonal *IGH* and *IGK* gene rearrangements were found in this specimen (**D**), and identically rearranged genes were found at initial diagnosis. Therefore, the patient was diagnosed with MDS with occult DLBCL.