Senile EBER positive diffuse large B cell lymphoma relapsing in the nasopharynx

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A 78-year-old woman presented with generalized lymphadenopathy, fever and weight loss. A biopsy showed diffuse large B cell lymphoma (DLCL) without marrow involvement. Her serum lactate dehydrongenase (LDH) level was elevated (2110 IU/l, normal 200-440) and a computerized tomogram (CT) scan showed extensive intrathoracic and intrabdominal lymph nodes with no hepatosplenomegaly. The lymphoma expressed CD10, CD20, Epstein Barr virus expressed RNA (EBER) and LMP-1 protein but were EBNA2 negative. A complete remission was achieved with R-NOPP x 6 (rituximab, mitoxantrone, vincristine, procarbazine, prednisolone). Her peripheral blood EBV DNA levels decreased from 6 x106 copies/ml to undetectable levels.[1] Despite fluctuating LDH levels (371 to 778 IU/l) she remained well for 16 months with undetectable EBV DNA. However, a surge in EBV-DNA level (7.2×10^5 copies/mL) was accompanied by malaise. A repeat marrow biopsy, LDH levels (385 IU/l) and CT scan were normal. However a positron emission tomography (PET) scan showed isolated intense uptake in the nasophayrnx (Figure 1A). A biopsy showed sheets of anaplastic malignant DLCL cells (Figure 1B), positive for CD20 (Figure 1C) and EBER (Fig 1D). She was treated with rituximab ($375mg/m^2\times4$) and COPP×2 (cyclophosphamide, vincristine, procarbazine, prednisolone) and refused further treatment. At 18 months, there was no further lymphoma relapse.

Oriental patients have a high genetic predisposition to certain EBV related lymphomas (e.g. NK nasal lymphoma, mixed cellularity Hodgkin lymphoma and pyothorax associated lymphoma). Senile EBER positive B cell lymphoma is a newly proposed clinical and pathological entity.[2] As in our case, extranodal involvement occurs in 80% of patients. Unlike lymphomas associated with severe immunodeficiency, over 70% of senile EBV lymphomas do not express EBNA2. Intriguingly, the relapsed lymphoma showed strong homing to the nasopharynx. This is a known site of intense EBV replication and is a preferential site in for several Oriental EBV latency state II related malignancies (e.g. nasopharyngeal carcinoma, NK nasal lymphomas).[3] In EBER positive B cell lymphomas, a combination of low dose chemotherapy and rituximab often yield durable responses, especially in cases with persistent suppression of circulating EBV DNA.[4]

Figure 1.

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