Characterization of Diffuse Large B-cell Lymphoma of the Oral Cavity

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Abstract

Aim: The intention of the study was to characterize the types of oral non-Hodgkin lymphoma (NHL), classify the predominant subtype of diffuse large B-cell lymphoma (DLBCL) using the Hans and the Natkunam, Lim-domain only 2 (LMO2) immunohistochemistry (IHC) algorithms, and identify the newly described categories of DLBCL namely, B-cell lymphoma, unclassifiable with features intermediate between DLBCL and Burkitt lymphoma (BCLU), and Epstein Barr Virus (EBV)-positive DLBCL of the elderly in the oral cavity.

Findings: 120 cases of oral NHL were subtyped according to the World Health Organization (WHO) Classification of Tumours of Haematopoietic and Lymphoid Tissues (2008). Of the 120 cases of NHL, 44 were classified as DLBCL. 42 of the 44 DLBCL were subtyped using the Hans and Natkunam algorithms. The Hans algorithm classified 21 cases of DLBCL as germinal center B-cell (GCB) (50.0%) and 21 as non-germinal center B-cell (non-GCB) (50.0%). Using the Natkunam algorithm, 32 were GCB (76.2%) and 10 cases were non-GCB (23.8%). 8 of 120 cases of NHL were classified as BCLU, of which 7 carried the c-myelocytomatosis oncogene cellular homolog (c-MYC) rearrangement. 3 of the 8 cases were considered double-hit lymphomas (DHLs). 5 cases were identified as EBV-positive DLBCL of the elderly.
**Conclusion:** GCB subtype of DLBCL was the predominant subgroup of oral cavity NHL as determined by the Natkunam algorithm. BCLU and EBV-positive DLBCL of the elderly can occur in the oral cavity, which has not been previously reported.