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Immunohistochemical subtypes of diffuse large B-cell lymphoma in the head and neck region

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ABSTRACT. The objectives of this study were to detect immunohistochemical subtypes of diffuse large B-cell lymphoma (DLBCL) of the head and neck, to compare the Hans, Choi, and Tally algorithms and to examine the significance of protein expression in these algorithms. This study included 103 DLBCL patients at Sichuan Cancer Hospital between May 2010 and October 2012. Immunohistochemistry was performed for CD10, B-cell lymphoma 6 protein (Bcl-6), mutated melanoma-associated antigen 1 (MUM1), germinal center B-cell-expressed transcript 1 (GCET1), forkhead box protein P1 (FOXP1), and LIM domain only 2 (LMO2). Subtypes were determined according to the Hans, Choi, and Tally algorithms. Positive staining for CD10 was detected in 16 patients (15.53%), for Bcl-6 in 68 patients (66.02%), for MUM1 in 69 patients (66.99%), for GCET1 in 21 patients (20.39%), for FOXP1 in 75 patients (72.82%), and for LMO2 in 50 patients (48.54%). The Hans algorithm identified 26 patients (25.2%) with the germinal center B-cell (GCB) subtype and 77 (74.8%) with the activated B-cell (ABC) subtype. In the Choi algorithm, 25 patients (24.3%) were identified with the GCB subtype and 78 (75.7%) with the ABC subtype. In the Tally algorithm, 20 patients (19.4%) had the GCB subtype and 83 (80.6%)

had the ABC subtype. Expression of CD10, MUM1, GCET1, FOXP1, and LMO2 correlated with algorithm ($P < 0.05$); however, Bcl-6 did not correlate with the Hans and Choi algorithms. DLBCL of the head and neck is most commonly the ABC subtype, not GCB. The Hans, Choi, and Tally algorithms were not significantly different.

Key words: Diffuse large B-cell lymphoma; Head and neck region; Immunohistochemical subtypes

