

Prognostic factors based on the tumor microenvironment in primary cutaneous B cell lymphoma – retrospective study of 216 biopsies

Primary cutaneous B cell lymphomas (CBCL) are chronic diseases with multiple relapses. Currently, evidence on prognostic factors about (relapse-free) survival (RFS) is lacking. The objectives of this study were to evaluate characteristics of the tumor microenvironment (TME) in CBCL and to identify prognostic factors.

In this monocentric and retrospective study, data from biopsies from patients with CBCL were analyzed. Statistical analyses about histology (clonality, [atypical] cell morphology, density and light chain restriction) and immunohistochemistry were conducted.

In total, 216 biopsies from 92 patients with CBCL were identified. 108 of 216 (50 %), 89 of 216 (41 %) and 19 of 216 (9 %) biopsies were taken from patients with follicle center lymphoma (FCL), marginal zone lymphoproliferative disorder (MZLPD) and diffuse large B cell lymphoma, leg type (DLBCL, LT), respectively. 48 of 83 and 43 of 72 biopsies showed a mix of small and large lymphocytic cells in FCL and MZLPD, respectively.

24 of 108, 22 of 89 and 5 of 19 biopsies showed atypical cells in FCL, MZLPD and DLBCL, LT, respectively. In MZLPD, both 20 and 20 of 51 biopsies exhibit a light chain restriction to kappa and lambda, respectively. In 155 of the 216 biopsies, immunohistochemical staining was performed. Expression of BCL-2 was observed in 49 of 85, 19 of 55 and 9 of 15 biopsies in FCL, MZLPD and DLBCL, LT, respectively. Expression of BCL-6 was found in 44 of 85, 15 of 55 and 6 of 15 biopsies in FCL, MZLPD and DLBCL, LT, respectively. Expression of CD10 was observed in 35 of 85, 4 of 55 and 8 of 15 biopsies in FCL, MZLPD and DLBCL, LT, respectively. Expression of MUM-1 was found in 3 of 85, 2 of 53 and 9 of 15 biopsies in FCL, MZLPD and DLBCL, LT, respectively. Medians of Ki-67 expression were 30 % (3 – 100 %), 40 % (3 – 75 %) and 90 % (10 – 99 %) in FCL, MZLPD and DLBCL, LT, respectively.

Univariate analysis showed that the 5-year RFS was 86 %, 82 % and 23 % in biopsies with small, mixed (small and large) and large lymphocytic cell infiltration, respectively.

Another univariate analysis showed that the 5-year RFS was 88 % and 66 % in BCL-6 negative and positive biopsies, respectively.

This study analyzed histological characteristics of the TME in CBCL and identified potential prognostic factors in a cohort with a large sample size. Multivariate analyses about histology, immunohistochemistry and clinical data have yet to be performed.

Learning Objective:

Participants should grasp an idea of recent histological insights into the TME in CBCL and which of them might be of prognostic value for (relapse-free) survival.

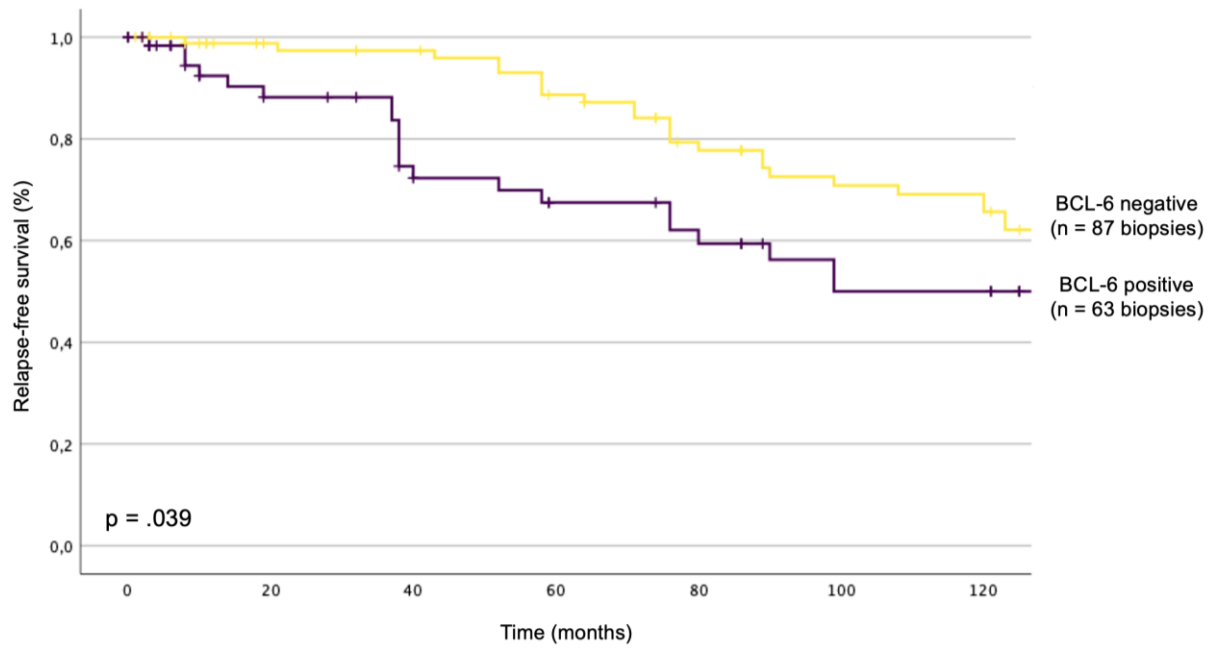


Figure. Expression of BCL-6 and relapse-free survival in primary cutaneous B cell lymphoma. p, p-value (level of significance: $\alpha = 0.05$).

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