

MYC or BCL2 copy number aberration is a strong predictor of outcome in patients with diffuse large B-cell lymphoma

Authors: Ting-Xun Lu¹, Lei Fan¹, Li Wang¹, Jia-Zhu Wu¹, Kou-Rong Miao¹, Jin-Hua Liang¹, Qi-Xing Gong², Zhen Wang², Ken H. Young³, Wei Xu¹, Zhi-Hong Zhang² and Jian-Yong Li^{1,4}

Hospital: ¹Department of Hematology, the First Affiliated Hospital of Nanjing Medical University, Jiangsu Province Hospital, Nanjing, China; ²Department of Pathology, the First Affiliated Hospital of Nanjing Medical University, Jiangsu Province Hospital, Nanjing, China; ³Department of Hematopathology, The University of Texas MD Anderson Cancer Center, Houston, TX, USA; ⁴Collaborative Innovation Center For Cancer Personalized Medicine, Nanjing Medical University

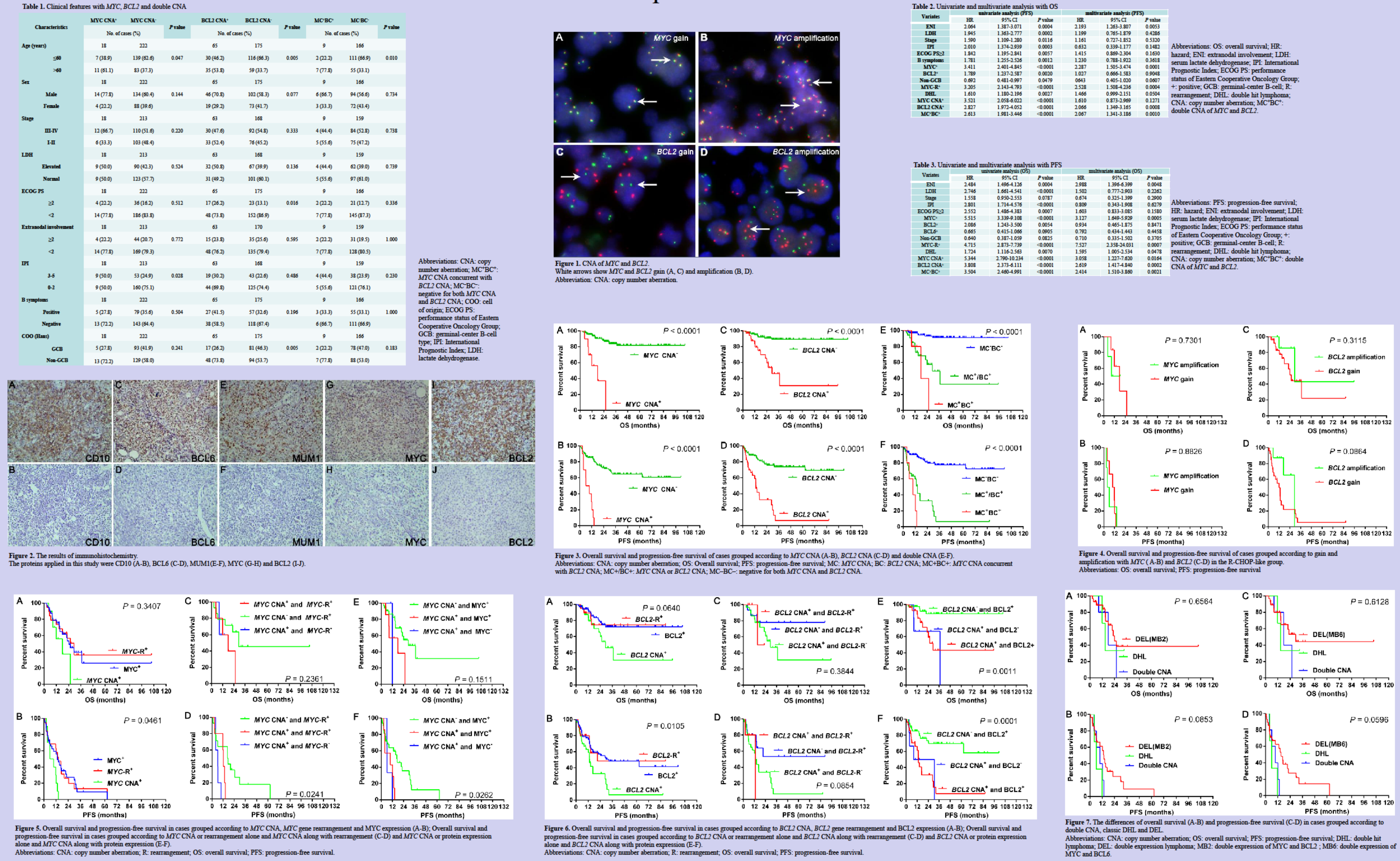
OBJECTIVES

Diffuse large B-cell lymphoma (DLBCL) is the most common non-Hodgkin lymphoma (NHL). Patients with DLBCL harboring *MYC* aberrations concurrent with *BCL2* or/and *BCL6* aberrations constitute a specific group with extremely poor outcome.

METHODS

We retrospectively investigated the incidence and prognosis of *MYC*, *BCL2*, and *BCL6* aberrations with DLBCL patients in Chinese population. We applied fluorescence in situ hybridization and immunohistochemical analysis in 246 DLBCL patients.

Graphs and tables



RESULTS

The results showed that patients with *MYC* or *BCL2* copy number aberration (CNA) had significantly worse overall survival (OS) and progression-free survival (PFS) than negative cases ($P < 0.0001$). Patients with both *MYC* and *BCL2* CNA had similar outcomes to those with classic double hit lymphoma or double protein expression (*MYC* and *BCL2*/*BCL6* coexpression). By multivariate analysis, *MYC* CNA, *BCL2* CNA and double CNA were the independent worse prognostic factors.

CONCLUSIONS

In conclusions, patients with *MYC* or *BCL2* CNA constituted a unique group with extremely poor outcome and may require more aggressive treatment regimens.