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Modified-IPI by inflammatory factor-based scoring system in DLBCL patients receiving Rituximab

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Background: Prognostic scoring system has made a progress to better predict progression and survival of DLBCL patients. International prognostic index (IPI) is still valid, there is still need for sophisticated prognostic scoring system with simply testable variables to individualize prognosis in patients treated with immunochemotherapy. In this context, various inflammatory factors detected. This study aimed to make an inflammatory factor based scoring system for predicting survival and disease progression in DLBCL patients undergoing rituximab-based chemotherapy and estimate the possibility of elaboration of IPI with inflammatory factor based scoring system. **Method:** Five hundred and twenty-three patients with DLBCL treated with at least 2 or more cycles of R-CHOP as a first-line treatment were retrospectively analyzed. Each 6 factors for inflammatory scoring system were dichotomized by the reference of previously published papers and were given 1 point for each variables after the following criteria. Patients were further classified by inflammatory factor-based scoring system: score 0~2, and these scores substituted LDH in the IPI. The IPI scores plus scores by inflammatory factor-based scoring system was further classified to 4 risk groups: low, low-intermediate, high-intermediate, and high. **Result:** The median follow-up duration was 37.61 months (range 0.60 – 139.03 months). All of the variables were statistically significant for progression free survival(PFS) and (OS). In multivariate analysis, LDH > normal and CRP > 1.0 mg/dL remained statistically significant for OS and CRP > 1.0 mg/dL marginally significant for PFS. By inflammatory factor-scoring system, score 0, 1, and 2 showed statistically significant OS and PFS, and modified IPI risk groups showed significant differences in OS and PFS. **Conclusion:** The risk groups stratified by inflammatory factor-based scoring system showed significant difference in both progression-free and overall survival in DLBCL patients in the Rituximab era. The inflammatory factor-based scoring system can further make delicate modification to IPI, substituting LDH. Validation of the finding in a larger cohort of patients is needed.

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Negative impact of malnutrition & cardiovascular risk factors on DLBCL patients with rituximab

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Background: Pretreatment nutritional status assessed by BMI, total cholesterol (TC), albumin, total lymphocyte count (TLC) have been noted to have prognostic in DLBCL patients. Along with malnutrition, higher comorbidity score was observed to affect poor treatment outcome and treatment-related toxicity in the rituximab era. **Method:** Five hundred and twenty-five patients with newly diagnosed DLBCL treated with R-CHOP in 6 centers of South Korea from January, 2007 to March, 2016 were analyzed. Pretreatment nutritional status was assessed by controlling nutritional status (CONUT) score. The CONUT score was calculated by adding scores of the serum albumin concentration, the TLC, and the TC concentration. Cardiovascular risk factors screened for the analysis were: DM, hypertension, previous history of myocardial infarction and cerebrovascular infarction. **Result:** The median follow-up duration was 29.47 months and the median age was 62 years. By univariate analysis, BMI ≤ 20 kg/m^2, TC < 140 mg/dL,albumin < 3.0 g/dL, TLC < 1200/mm^3, CONUT score ≥ 4, and cardiovascular risk factors ≥ 1 significantly affected overall survival (OS). In multivariate analysis, BMI ≤ 20 kg/m^2, albumin < 3.0 g/dL, CONUT score ≥ 4, and cardiovascular risk factors ≥ 1 were significantly associated with OS. In term of factors affecting progression-free survival (PFS), there were significant association with albumin < 3.0 g/dL, TLC < 1200/mm^3 and CONUT score ≥ 4, but none of these factors had prognostic impact on PFS in multivariate analysis. **Conclusion:** Malnourishment status indicated by BMI ≤ 20 kg/m^2 and CONUT score ≥ 4 and at least one or more cardiovascular risk factors at diagnosis poorly affect survival in DLBCL patients treated with Rituximab-based regimen.