Albumin - globulin ratio and Eosinophil-neutrophil ratio as potential predictive biomarkers for Anti-PD-1/PD-L1 treatment in advanced malignant tumors.

Yan Ma[1], Kun Shang[1], Shanshan Wu[1], Jing Wang[1], and Bangwei Cao[1]

[1]Capital Medical University Affiliated Beijing Friendship Hospital
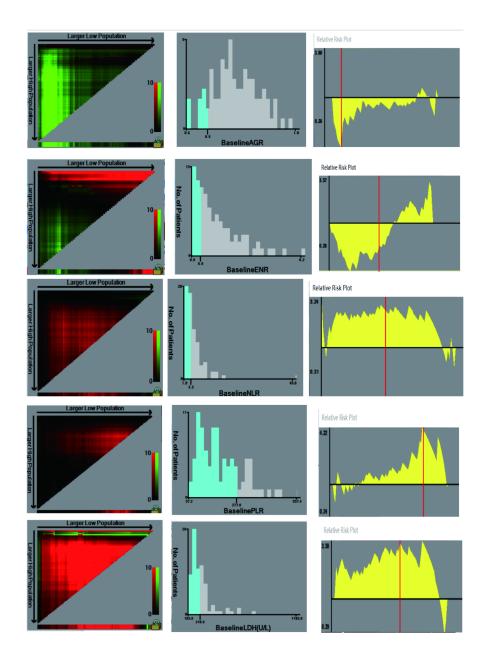
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Abstract

Purpose To investigate the predictive value of peripheral serum biomarkers such as albumin - globulin ratio (AGR) and eosinophilic - neutrophil ratio (ENR) in the advanced malignant tumors with anti-PD-1/PD-L1. Methods We retrospectively analyzed the clinical efficacy of 95 patients with advanced metastatic malignancies treated with PD-1/PD-L1 inhibitor from January 1, 2017 to May 1, 2020 in our cancer center. The predictive value of baseline AGR, baseline ENR, baseline neutrophil-lymphocyte ratio (NLR) and other serum biomarkers was evaluated. We also develop a risk scoring tool and draw a Nomogram. Results The disease control rate was 64.2%, and the median progression-free survival(PFS) was 108 days. Univariate COX analysis showed that age, NLR, Eastern Cooperative Oncology Group (ECOG) performance status (PS), platelet-neutrophil ratio (PLR), ENR, AGR), LDH, treatment lines, and treatment were closely correlated with PFS. Multivariate COX analysis showed that age, AGR, ENR, and treatment were independent prognostic factors for PFS. The low-risk group (-4~0 points) had significantly higher PFS than the high-risk group (1~3 points) when the risk scoring tool was constructed based on COX regression model. The Nomogram Concordia Index (C-index) with independent prognostic factors was 0.716. Conclusions Baseline AGR and baseline ENR may be effective biomarkers for predicting the efficacy of anti-PD-1/PD-L1 in the advanced malignant tumors, and their clinical value needs to be verified by further large-sample and prospective studies.
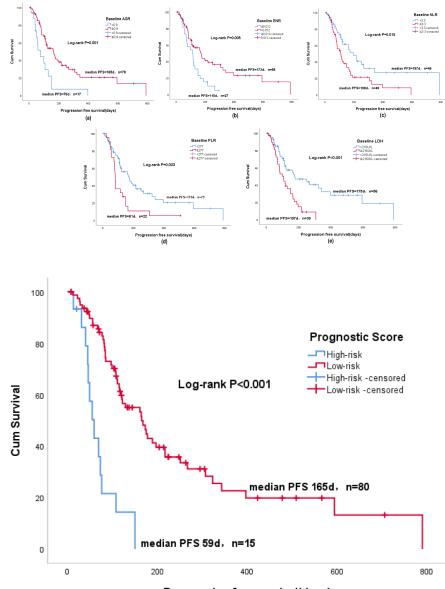
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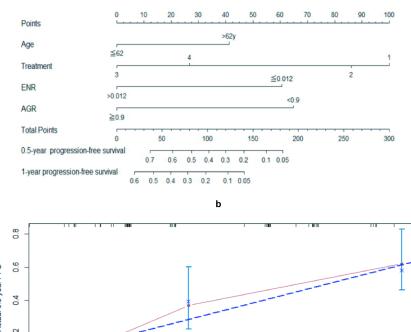
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