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Blood 142 (2023) 6390

The 65th ASH Annual Meeting Abstracts

ONLINE PUBLICATION ONLY

634.MYELOPROLIFERATIVE SYNDROMES: CLINICAL AND EPIDEMIOLOGICAL

An Innovative Dynamic Nomogram for Stratifying Survival Prognosis in Essential Thrombocythemia Patients with a History of Thrombosis

Chen Jia[1], *Ting Sun*[1], *Rongfeng Fu*[1], *Huan Dong*[1], *Renchi Yang*[1], *Lei Zhang, MD*[2]

[1] Institute of Hematology & Blood Diseases Hospital, Chinese Academy of Medical Sciences & Peking Union Medical College, Tianjin, China
[2] State Key Laboratory of Experimental Hematology, National Clinical Research Center for Blood Diseases, Haihe Laboratory of Cell Ecosystem, Tianjin Key Laboratory of Gene Therapy for Blood Diseases, CAMS Key Laboratory of Gene Therapy for Blood Diseases, Tianjin, China

Background:Essential thrombocythemia (ET) with a previous history of thrombosis was classified as high risk according to the revised International Prognostic Score for Thrombosis in ET. However, prognostic factors are not well established in this patient population. With the aim of enhancing patient outcomes, we endeavored to develop a prognostic nomogram specifically for patients with ET and a prior history of thrombosis.
Methods:We included 318 ET with previous arterial or venous thrombosis or both from January 2008 to June 2022 in our study. We used multivariable Cox proportional hazards regression to build a dynamic prognostic nomogram for this patient population. Harrell C Index was used for nomogram discrimination. Internal validation was performed by bootstrap resampling. The area under the receiver operating characteristic curve (AUC) was used to determine the nomogram's performance.
Results:Based on the IPSET model, out of the 318 patients, 148 were categorized as having an intermediate risk (score of 1-2), while 170 patients were classified as high risk (score greater than or equal to 3). Substantial statistical significance was observed in the overall survival between these two groups, underscoring the ability of the IPSET model to stratify prognosis in essential thrombocythemia patients with a history of thrombosis .
We further used multivariable cox regression analysis and found that Age≥60 years (HR=5.68 [95% CI:1.44-22.47], p=0.013), splenomegaly (HR=5.66 [95% CI:1.74-18.43], p=0.004), abnormal karyotype (HR=5.28 [95% CI:1.38-20.25], p=0.015), white blood cell counts (HR=1.09 [95% CI:1.02-1.18], p=0.014), and hemoglobin (Hb, HR=0.97 [95% CI:0.95-0.99], p=0.006) were independently risk factors for survival. We created a nomogram as well as a web portal that enables survival predictions based on individualized parameters (**https://cae29l-jia-chen.shinyapps.io/DynNomapp/)**. The C Index of the nomogram was 0.818. The AUC of 3-year, 5-year, and 10-year survival of the nomogram were 0.854, 0.769, and 0.813, respectively. Sex biases were observed at Hb levels that contribute outcome heterogeneity in such ET patients.
Conclusions : We provided a new dynamic nomogram that can well evaluate the survival prognostication for a given ET patient with a previous history of thrombosis, with a good discrimination and excellent performance.

Disclosures No relevant conflicts of interest to declare.

https://doi.org/10.1182/blood-2023-173111