Primary and validation of a nomogram for predicting survival in pancreatic ductal adenocarcinoma patients with no distant metastasis: a large-scale population-based estimate

Ning Pu, Yadong Xu, Guochoa Zhao, Abulimiti Nuerxiati, Jian-ang Li, Dansong Wang, Xuefeng Xu, Tiantao Kuang, Dayong Jin, Wenchuan Wu and Wenhui Lou
Fudan University, China

Purpose: To identify risk factors for overall survival (OS) of pancreatic ductal adenocarcinoma (PDAC) patients with no distant metastasis, and formulate a novel nomogram for prognostic prediction of these patients.

Patients & Methods: Data from surveillance, epidemiology, end results (SEER) database of PDAC patients with no distant metastasis between 2010 and 2014 as the primary cohort, and Zhongshan Hospital, Fudan University of resected patients between 2012 and 2015 as the validation cohort were enrolled. The Cox proportional hazards regression model was used in univariate and multivariate survival analyses to identify significant independent prognostic factors. The prognostic nomogram integrating all independent risk factors for predicting OS was established to achieve superior discriminatory ability. The performance of the constructed nomogram was further evaluated by the concordance index (C-index), calibration curve and decision curve analysis.

Results: A total of 12343 patients from SEER database and 127 patients from Zhongshan Hospital, Fudan University were finally analyzed. In the univariate and multivariate analysis with the primary cohort, age, differentiation, TNM stage, surgery of primary site and regional lymphocyte node (LN) surgery were identified as independent prognostic indicators for OS, which were integrated to formulate a prognostic nomogram. The constructed nomogram showed excellent performance according to the C-index and calibration curve. Compared with the TNM staging system of the AJCC 7th edition, the nomogram exhibited superior predictive accuracy for OS. All these results were further verified in the validation cohort.

Conclusion: The nomogram formulated in this study revealed excellent discrimination capability to predict OS of PDAC patients with no distant metastasis. One more advanced and accurate predictive model will be obtained to assist in risk stratification via the constructed nomogram.

Biography
Ning Pu is pursuing Masters at Fudan University at Zhongshan Hospital. He has published Articles on Pancreatic cancer in divergent journals. He has under graduation at Yangzhou University.

15211210027@fudan.edu.cn