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Nomogram to Predict the Prognosis of Oligodendroglioma Patients Undergoing Postoperative Adjuvant Chemotherapy

Xin Yang ¹, Xia Yan ¹, Ying Lu ¹, Yannan Xu ¹, Liu Yang ², Jinhu Li ², Wang Miao ³

Affiliations

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Abstract

Objective: The aim of this study was to develop a prognostic nomogram for predicting the prognosis of oligodendroglioma patients receiving combined chemoradiotherapy (CRT) after surgery.

Methods: The study used data from the Surveillance, Epidemiology, and End Results (SEER) database between 2000 and 2019. The patients were randomly divided into a development cohort (700 patients) and a validation cohort (244 patients) in a 7:3 ratio. The Cox hazards regression model was used to identify predictors, and a nomogram was constructed to visualize the prognosis. The performance of the prognostic nomogram was evaluated using the consistency index (C-index), clinical net benefit, and calibration.

Results: The nomogram included five variables: age, marital status, tumor size, site of lesions, and surgery type. The C-index of the training set and validation set were 0.77 and 0.68, respectively. The calibration plots showed that the nomogram was in good agreement with the actual observation. The clinical decision curve indicated that the nomogram had a good clinical net benefit in oligodendroglioma patients receiving CRT after surgery.

Conclusions: This study established and verified a prognostic nomogram for a large cohort of oligodendroglioma patients receiving CRT after surgery based on the SEER database. The nomogram may help clinicians provide personalized treatment services and clinical decisions for patients.

Keywords: Combined chemoradiotherapy; Oligodendroglioma; Prognostic nomogram; SEER database.

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