ABSTRACT

Clin Genet. 2022 Jul 26. doi: 10.1111/cge.14200. Online ahead of print.

Nomograms for prognostic risk assessment in glioblastoma multiforme: Applications and limitations.

Zheng H(1), Yan T(1), Han Y(1), Wang Q(2), Zhang G(1), Zhang L(1), Zhu W(3), Xie L(1), Guo X(1).

Author information:
(1)Institute of Biomedical Informatics, Henan Provincial Engineering Center for Tumor Molecular Medicine, School of Basic Medical Sciences, Academy for Advanced Interdisciplinary Studies, Henan University, Kaifeng, China.
(2)School of Software, Institute of Biomedical Informatics, Academy for Advanced Interdisciplinary Studies, Henan University, Kaifeng, China.
(3)Department of Anesthesia, Stanford University, Stanford, California, USA.

Glioblastoma multiforme (GBM) is the most common and aggressive form of brain cancer. Prognosis evaluation is of great significance in guiding individualized treatment and monitoring of GBM. By integrating different prognostic variables, nomograms simplify the statistical risk prediction model into numerical estimates for death or recurrence, and are hence widely applied in prognosis prediction. In the past two decades, the application of high-throughput profiling technology and the establishment of TCGA database and other public data deposits have provided opportunities to identify cancer-related molecules and prognostic biomarkers. As a result, both molecular features and clinical characteristics of cancer have been reported to be the key factors in nomogram model construction. This article comprehensively reviewed 35 studies of GBM nomograms, analyzed the present situation of GBM nomograms, and discussed the role and significance of nomograms in personalized risk assessment and clinical treatment decision-making. To facilitate the application of nomograms in the prognostic prediction of GBM patients, a website has been established for the online access of nomograms based on the studies of this review, which is called Consensus Nomogram Spectrum for Glioblastoma (CNSgbm) and is accessible through https://bioinfo.henu.edu.cn/nom/NomList.jsp.

DOI: 10.1111/cge.14200
PMID: 35882630