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Prognostic Value of Health-Related Quality-of-Life Data in Predicting Survival in Patients With Anaplastic Oligodendrogliomas, From a Phase III EORTC Brain Cancer Group Study

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Purpose: This is one of a few studies that have explored the value of baseline symptoms and health-related quality of life (HRQOL) in predicting survival in patients with brain cancer.

Patients and Methods: Baseline HRQOL scores (from the European Organisation for Research and Treatment of Cancer [EORTC] Quality of Life Questionnaire C30 and the EORTC Brain Cancer Module) were examined in 247 patients with anaplastic oligodendrogliomas to determine the relationship with overall survival by using Cox proportional hazards regression models. Refined techniques as the bootstrap resampling procedure and the computation of C indexes and R^2 coefficients were used to explore the stability of the models as well as better assess the potential benefit of using HRQOL to predict survival in clinical practice and research.

Results: Classical analysis controlled for major clinical prognostic factors selected emotional functioning ($P = .0016$), communication deficit ($P = .0261$), future uncertainty ($P = .0481$), and weakness of legs ($P = .0001$) as statistically significant prognostic factors of survival. However, several issues question the validity of these findings and no single model was found to be preferable over all others. C indexes, which estimate the probability of a model to correctly predict which patient among a randomly chosen pair of patients will survive longer, and R^2 coefficients, which measure the proportion of variability explained by the model, did not exhibit major improvement when adding selected or all HRQOL scores to clinical factors.

Conclusion: While classical techniques lead to positive results, more refined analyses suggest that baseline HRQOL scores add relatively little to clinical factors to predict survival. These results may have implications for future use of HRQOL as a prognostic factor for patients with cancer.

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