**MGMT Promoter Predicts Overall Survival for Patients with Anaplastic Astrocytoma**

SAN DIEGO, CA — NRG Oncology trial RTOG 9813 determined that MGMT promoter methylation was an independent predictor of overall survival for patients with anaplastic astrocytoma, a type of malignant brain tumor. The abstract "MGMT Promoter Status Independently Predicts Overall Survival in Anaplastic Astrocytoma in NRG Oncology/RTOG 9813: A Phase III Trial of Radiation Plus Nitrosourea Versus Radiation Plus Temozolomide" was presented at the American Society for Radiation Oncology (ASTRO) 59th Annual Meeting in San Diego, California and was also a recipient of a “Best of ASTRO” award for 2017.

“This is the first study to analyze the prognostic significance of MGMT promoter methylation as an independent prognostic biomarker of overall survival in a grade 3 anaplastic astrocytoma clinical trial that utilized radiation plus nitrosourea or temozolomide," stated Erica Bell, Ph.D., Assistant Professor of The Ohio State University and the abstract’s first author. Arnab Chakravarti, MD served as the senior author and PI of the secondary analysis and is Chair of Radiation Oncology at The Ohio State University Comprehensive Cancer Center -Arthur G. James Cancer Hospital.

This analysis of patients in a prospective phase III trial sought to discover the proportion of patients on NRG Oncology/RTOG 9813 with MGMT promoter methylation and the biomarker’s prognostic significance in regards to anaplastic gliomas that are astrocytoma dominant. The MGMT-STP27 model was used to calculate the MGMT promoter methylation status, Univariate (UVAs) and multivariable analyses (MVAs) were performed using Cox Proportional Hazard model and included the effect of MGMT status on progression-free survival (PFS) and overall survival (OS).

Fifty-eight of 196 eligible high-risk patients currently have MGMT status available and, of those 58 patients, 62% are methylated and 38% are unmethylated. MGMT promoter methylation trended towards better PFS, but was significantly associated with OS.

“We are pleased with the information our researchers were able to collect and the ability this trial has to shape the future of biomarker studies in this patient population,” says Walter J. Curran, Jr., MD, NRG Oncology Group Chair and Executive Director of the Winship Cancer Institute of Emory University. “Congratulations to the NRG/RTOG 9813 team and all participating sites on this trial”.

Ongoing efforts will continue to determine the prognostic significance of MGMT promoter methylation in the setting of IDH mutation and 1p/19q status as well as efforts to increase sample size.

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Citation:
NRG Oncology conducts practice-changing, multi-institutional clinical and translational research to improve the lives of patients with cancer. Founded in 2012, NRG Oncology is a Pennsylvania-based nonprofit corporation that integrates the research of the NSABP, the Radiation Therapy Oncology Group (RTOG), and the Gynecologic Oncology Group (GOG). The research network seeks to carry out clinical trials with emphases on gender-specific malignancies, including gynecologic, breast, and prostate cancers, and on localized or locally advanced cancers of all types. NRG Oncology’s extensive research organization comprises multidisciplinary investigators, including medical oncologists, radiation oncologists, surgeons, physicists, pathologists, and statisticians, and encompasses more than 1,300 research sites located world-wide with predominance in the United States and Canada. NRG Oncology is supported primarily through grants from the National Cancer Institute (NCI) and is one of five research groups in the NCI’s National Clinical Trials Network.