MedicalXpress

Suggested benefit in PCV chemoradiotherapy for both IDH-mutant WHO-defined molecular subgroups

June 3 2019

A recent, updated predictive analysis of the three WHO-defined molecular subgroups based on isocitrate dehydrogenase 1/2 (IDH) mutation status and 1p/19q co-deletion status represented in the high-risk treatment arms of the NRG Oncology clinical trial NRG-RTOG 9802 indicates that both IDH-mutant sub-groups (IDHmut-noncodel and IDHmut-codel) could benefit from the addition of PCV chemotherapy to radiotherapy treatment. This data was presented during a "Best of ASCO" oral presentation in the Central Nervous Systems Tumors Session at the American Society of Clinical Oncology (ASCO) Annual Meeting.

NRG-RTOG 9802 was a phase III Trial that assessed patients with high-risk low-grade gliomas (defined as patients at least 40 years old or who have had incomplete tumor removal) that were treated with radiotherapy (RT) with or without combination chemotherapy treatment including the drugs procarbazine, lomustine, and vincristine (PCV chemotherapy) after the patients received a biopsy or surgical resection. This analysis studied a subset of the specimens from which tissue was available for molecular profiling.

"This is the first phase III trial to evaluate the predictive value of WHO subgroups in low-grade gliomas using long-term overall survival data with the current standard of care. The results support the notions that there are benefits of PCV therapy to RT for both IDHmut-noncodel and

IDHmut-codel subgroups; whereas, high-risk low-grade glioma patients with IDHwt tumors did not demonstrate any benefit from this treatment.," stated Erica H. Bell, Ph.D., Associate Professor of the Department of Radiation Oncology at The Ohio State University and the first author for this NRG-RTOG 9802 abstract.

One hundred and six specimens of the 251 eligible patients from the trial could be analyzed as they had sufficient tissue and quality DNA for profiling. Of these specimens, 41% were categorized as IDHmut-noncodel, 35% were IDHmut-codel, and 24% were IDHwt. No statistically significant differences between progression-free survival (PFS) and overall survival (OS) was observed with the addition of PCV chemotherapy in the IDHwt subgroup; however, both IDH-mutant subgroups were significantly correlated with longer PFS (IDHmut/non-co-deleted, p=0.003; IDHmut/co-deleted; p