Polio-rhinovirus promising for malignant glioma patients

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(HealthDay)—Intratumoral infusion of recombinant nonpathogenic polio-rhinovirus chimera (PVSRIPO) can be delivered safely and is tied to higher survival rates than those of historical controls, according to a study published in the July 12 issue of the *New England Journal of Medicine*.

Annick Desjardins, M.D., from Duke University Medical Center in Durham, N.C., and colleagues conducted a dose-finding and toxicity study among 61 consecutive adult patients who had recurrent World Health Organization (WHO) grade IV malignant glioma. The authors evaluated seven doses of convection-enhanced, intratumoral delivery of PVSRIPO in a dose-escalation phase and a dose-expansion phase.

Dose level ?1 ($5.0 10^{7}$ $TCID_{50}$) was identified as the phase 2 dose. The researchers found that one dose-limiting toxic effect (a grade 4 intracranial hemorrhage immediately after the catheter was removed) was observed in a patient receiving dose level 5 (10^{10} $TCID_{50}$). Dose level 5 was de-escalated to reach the phase 2 dose to mitigate locoregional inflammation of the infused tumor with prolonged glucocorticoid use. Overall, 19 percent of patients had a PVSRIPO-related adverse event of grade 3 or higher in the dose-expansion phase. A plateau of 21 percent overall survival among the patients who received PVSRIPO was reached at 24 months and sustained to 36 months.

"Intratumoral infusion of PVSRIPO in patients with recurrent WHO grade IV malignant glioma confirmed the absence of neurovirulent potential," the authors write.

Several authors disclosed financial ties to the pharmaceutical industry and/or hold patents related to treating tumors with oncolytic poliovirus.

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